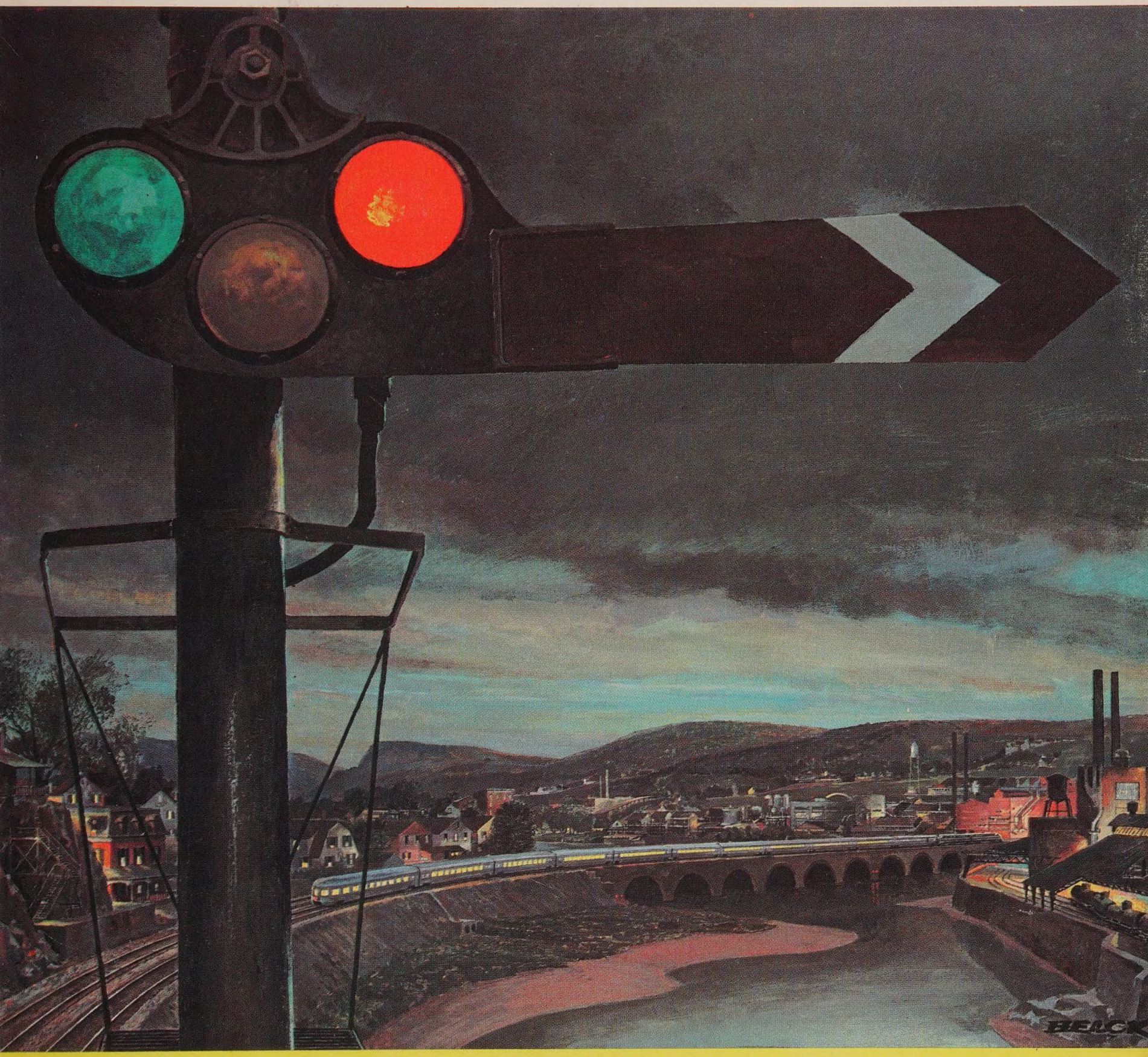
RAILROAD

MAGAZINE | OCTOBER 50c

1957



AS I REMEMBER RUDOLF DIESEL

What kind of man was he? A personal story by Charles Morrow Wilson
plus significant facts in the rise and future of diesel locomotives

---

Camelbacks
by H. L. KELSO

SMOKE ORDERS
by BILL KNAPKE

Code of the Boomer
by HARRY BEDWELL

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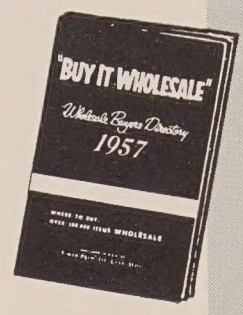


- ★ Lists HUNDREDS of sources for WHOLESALE bargains!
- ★ Lists HUNDREDS OF SURPLUS, CLOSE-OUT, BARGAIN offers!
- ★ Special lists of WHOLESALE, CLOSE-OUT JOBBERS!

THIS DIRECTORY, BEING SOLD EVERYWHERE FOR $1.00 PER COPY, IS YOURS FREE WITH YOUR 1 YEAR'S SUBSCRIPTION TO "BARGAINS"!

ONE issue of this AMAZING NEW magazine can save you MORE MONEY than the cost of the ENTIRE subscription! You'll buy BETTER, NEWER THINGS CHEAPER from every issue. Today, when your every penny must count, you need "BARGAINS" to get the very most from every cent you spend! Each issue has HUNDREDS of bargain offers . . . such EXTRAORDINARY SAVINGS you'll find them hard to believe! Buying BANKRUPT, CLOSEOUT, SURPLUS BARGAINS and at WHOLESALE PRICES can save you from 40% to 80% and more. Impossible? IT IS THE TRUTH!

DON'T TAKE OUR WORD FOR IT

Here's What subscribers say about "BARGAINS" After receiving Their copies!!

". . . As a result of answering one of the ads (in Bargains) it has resulted in extra profits of $40.00 and upwards per month."—J.H., Alabama

". . . Saw your wonderful paper and enjoyed every bit of its reading and adv. It's a Great Paper."—M.S., Vermont

". . . I am very pleased with BARGAINS. I have never seen anything like it and am looking forward to my future copies, especially the Christmas edition."—Mrs. D.M., Maine

". . . Received my first issue of Bargains and may I say it is a great magazine."—M.H.C., Alabama

". . . I think BARGAINS is the best merchandise publication I have ever seen. (And I have seen hundreds.)"—S.P.C., Brooklyn, N.Y.

". . . Received my 1st copy of BARGAINS the other day and am very pleased, the information you publish may be just the 'shot in the arm' my business needs." D.S., St. Albans, N.Y.

". . . I have found your magazine very helpful." —W.A.P., Ogdensburg, N.Y.

". . . Received your paper. Thank you very much. It is one of the finest we have ever seen."—F.D., Iowa

PLUS MANY OTHERS!

THE ABOVE LETTERS WERE NOT SOLICITED IN ANY WAY OR MANNER—ALL ARE IN OUR OFFICE FILES! They are the enthusiastic reaction of subscribers after seeing their first copies of BARGAINS!

YOU can make FANTASTIC, almost UNBELIEVABLE PROFITS buying up bargain merchandise CHEAP and selling it CHEAP! Thousands of smart agents, salesmen, mail order dealers, store owners subscribe to "BARGAINS." They want to know WHERE TO BUY BEST to sell at LOW prices for BIG PROFITS! YOU CAN DO THE VERY SAME THING! Special feature articles in "BARGAINS" tell you HOW to sell these bargains for BIG PROFITS even if you haven't any experience!

UNIQUE "Subscribers Shopping Service" enables YOU to buy big name merchandise at TREMENDOUS SAVINGS! Only "BARGAINS" gives you this EXCLUSIVE feature! "BARGAINS" negotiates offers in famous merchandise at LOW WHOLESALE prices then offers it to SUBSCRIBERS (ONLY) at NO PROFIT! You can buy valuable merchandise at the same prices (sometimes lower) than some dealers pay.

NEW! A special Dept. listing Foreign Bargain offers—also firms looking for U.S. dealers. Where to buy Foreign Gifts DIRECT at big savings!

"BARGAINS" is the ONLY type of big tabloid publication in EXISTENCE! Look high and low, you won't find another publication like "BARGAINS"! Available by subscription ONLY! "BARGAINS" is the ONLY tabloid monthly in existence that lists BANKRUPT, CLOSEOUT, SURPLUS merchandise EVERY MONTH! You'll find such SENSATIONAL BARGAINS that you, too, will feel like those subscribers who have written enthusiastic letters after receiving their first copies. (See testimonials at left!)

SAVE up to $1000 — EARN up to $3000! We honestly believe that you can earn up to $3000 or more within a year and save up to $1000 on your purchases from "BARGAINS"! Prove this for yourself by subscribing now!

YOUR subscription automatically will include the BIG 1957 DIRECTORY EDITION! PLUS the 1957 "Christmas Special Issue" This "Buy-It-Wholesale" Directory of BARGAINS includes 100,000 items —tells where and how to buy them at fabulous savings! The Directory, alone, can make and save you many, many times the subscription prices of a whole year of "BARGAINS"! You get this FREE plus the big Christmas Special Issues by time for the big holiday season!

12 BIG ISSUES—only $2. per year!

REGULAR PRICES $3.00

- **Special 10-Day Offer to Obtain 10,000 new subscribers • Yes, just $2.00—17¢ per month is all you need pay!**

YOU must be delighted with your first issue or you can have your money back!

Here's a FEW of the Many Bargains as Were Published in "BARGAINS"!

- PENCILS, 57½¢ per 144 pencils!
- 25¢ Rudolph Reindeer Brooches, 2¢ each!
- Plastic TOY GUNS, 2¢ each!
- $1 MUFFLERS, SCARFS, 12½¢ each!
- Double edge razor blades, $1.50 per 1000 blades!
- LADIES APRONS, 6¼¢ each!
- $2.50 WALLETS, 30¢ each!
- $1 val. billfolds, 15¢ each!
- $1 Kiddies handbags, 3¢ each!
- CIGARETTE HOLDERS, 1¢ each!
- BUTTONS, 25¢ per 144!
- Brand new phono records, 78 & 45 RPM, 7¢ each!
- 69¢ INSECT REPELLANT, 5¢ each!
- New 20" T.V. Picture tubes, $21.95 each!
- Famous brand $18.75 perfume, $1.00 each!
- 49¢ Xmas window decoration sets, 10¢ per set!
- $1 to $3 hard cover books, 20¢ each!
- $200 Govt. surplus typewriters, $23.00 each!
- 50¢ Everyday greeting cards, 7½¢ per box!
- 25 card asst. Xmas cards, 11¢ per box!
- $1.95 Men's Silk ties, 12½¢ each!
- $1 Value personal name tapes, 72 for 40¢!
- 39¢ Under arm deodorant, 2¢ jar!
- $1.00 automatic card shufflers, 9¢ each!
- NEW HAIRNETS, ½¢ each!
- $1.75 Rudolph kiddies toiletry sets, 35¢ each!
- $15.00 Electric Percolators, $5.00 each!
- $5.50 Lucite Hairbrushes, 65¢ each!
- New Bobby Pins, 70¢ per 700 pins!
- $10.00 Men's Toiletry sets, 60¢ each!
- Calendar Wrist Watches, $5.00 each!
- POSTAL SCALES, 7½¢ each!
- $2.98 Horserace game records, 30¢ each!
- CHRISTMAS SEALS, 25¢ per 1000!

PLUS HUNDREDS OF OTHER SENSATIONAL BUYS!

(Above list merely illustrates type of bargains usually found in this paper. Lists naturally change from month to month.)

LET'S FACE IT . . . Claims, promises are easy to make on paper. You may or may not believe all that we say here about "Bargains." But can you beat a money back offer AS IRONCLAD, AS STRAIGHT-FORWARD AS THIS . . . YOUR MONEY-BACK IN FULL IF THE FIRST ISSUE THAT YOU RECEIVE DOESN'T PLEASE YOU! No quibbling about it either. YOU MUST BE DELIGHTED WITH YOUR FIRST ISSUE OR YOU CAN HAVE YOUR MONEY BACK IN FULL. That's as FAIR a guarantee as ANY FIRM can make.

Join this pleased and friendly group of subscribers today—by return mail. YOU WON'T REGRET IT!

TOWER PRESS, INC.

P. O. BOX 447 LYNN 803, MASS.

TOWER PRESS, INC.
Box 447, Lynn 803, Mass. **Canada $3.00**

O.K. Here's my $2.00 for 1 year subscription. Rush me first copy! Include MY FREE "BUY-IT-WHOLESALE" Directory!

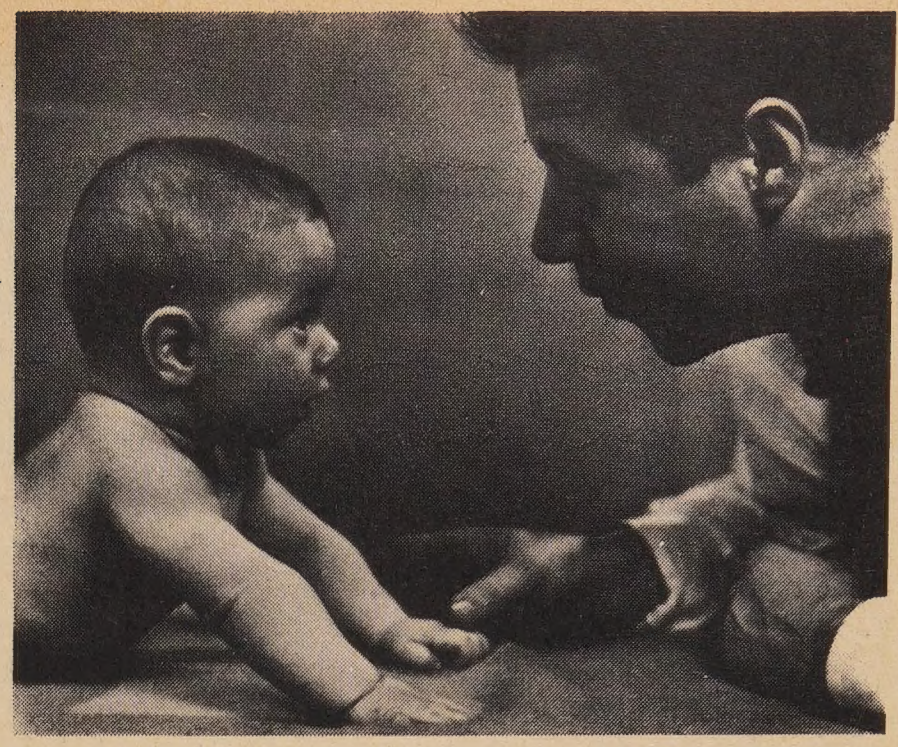
Name.....

Address.....

City.....State.....

Remember! Your Money Back IN FULL if the 1st issue that you receive doesn't please you!

YOUR MOVE, DAD!



The first frantic months of fatherhood are over. You have time now to really enjoy the new baby—and time to really think ahead.

There's plenty to think about. And lots to plan for. What kind of a Dad will you be? What kind of a provider?

One thing's sure: now you've got to earn more money! About $500 a year more, to start with. *But how?*

Try doing what some five thousand new fathers did last year. Start preparing yourself for a better job—at home, in your spare time. *Enroll with I.C.S.*

Most of these new fathers already have job promotions, fat pay boosts. One writes, "I've jumped five years in one." Another reports, "I'm making $125 more a month."

There's no magic in I.C.S. Just sound, practical, step-by-step training. And a *method* that makes it possible to master any subject as rapidly as your time and ability permit.

You have 257 courses to choose from. Business. Technical. Engineering. All job-related. All keyed to everyday problems. Let us send you a *free sample lesson* together with two valuable books—(1) opportunities in your field and (2) "How to Succeed." No obligation—except the new one you have as a father.

The famous I.C.S. coupon is right here. *And it's your move!*

For Real Job Security—Get an I. C. S. Diploma! **I. C. S., Scranton 9, Penna.** **Member, National Home Study Council**

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BOX 06752H, SCRANTON 9, PENNA. (Partial list of 257 courses)

Without cost or obligation, send me "HOW to SUCCEED" and the opportunity booklet about the field BEFORE which I have marked X (plus sample lesson):

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- ☐ Arch. Drawing and Designing
- ☐ Building Contractor
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- ☐ Carpentry and Millwork
- ☐ Carpenter Foreman
- ☐ Heating
- ☐ Interior Decoration
- ☐ Painting Contractor
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- ☐ Reading Arch. Blueprints

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- ☐ Commercial Art
- ☐ Magazine & Book Illus.
- ☐ Show Card and Sign Lettering
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- ☐ Auto Engine Tuneup
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- ☐ Chem. Lab. Technician
- ☐ Elements of Nuclear Energy
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- ☐ Natural Gas Prod. and Trans.
- ☐ Petroleum Prod. and Engr.
- ☐ Professional Engineer (Chem)
- ☐ Pulp and Paper Making

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- ☐ Civil Engineering
- ☐ Construction Engineering
- ☐ Highway Engineering
- ☐ Professional Engineer (Civil)
- ☐ Reading Struc. Blueprints
- ☐ Structural Engineering
- ☐ Surveying and Mapping

DRAFTING
- ☐ Aircraft Drafting
- ☐ Architectural Drafting
- ☐ Drafting Machine Design
- ☐ Electrical Drafting
- ☐ Mechanical Drafting
- ☐ Sheet Metal Drafting
- ☐ Structural Drafting

ELECTRICAL
- ☐ Electrical Engineering
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- ☐ High School Diploma
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- ☐ Machine Design
- ☐ Machine Shop Practice
- ☐ Mechanical Engineering
- ☐ Professional Engineer (Mech)
- ☐ Quality Control
- ☐ Reading Shop Blueprints
- ☐ Refrigeration and Air Conditioning
- ☐ Tool Design ☐ Tool Making

RADIO, TELEVISION
- ☐ General Electronics Tech.
- ☐ Industrial Electronics
- ☐ Practical Radio-TV Eng'r'g
- ☐ Practical Telephony
- ☐ Radio-TV Servicing

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Front cover painting
by Peter Helck (see page 6)

RAILROAD MAGAZINE

THE MAGAZINE OF ADVENTUROUS RAILROADING—FOUNDED 1906

VOL. 68, NO. 6 OCTOBER 1957 50 CENTS

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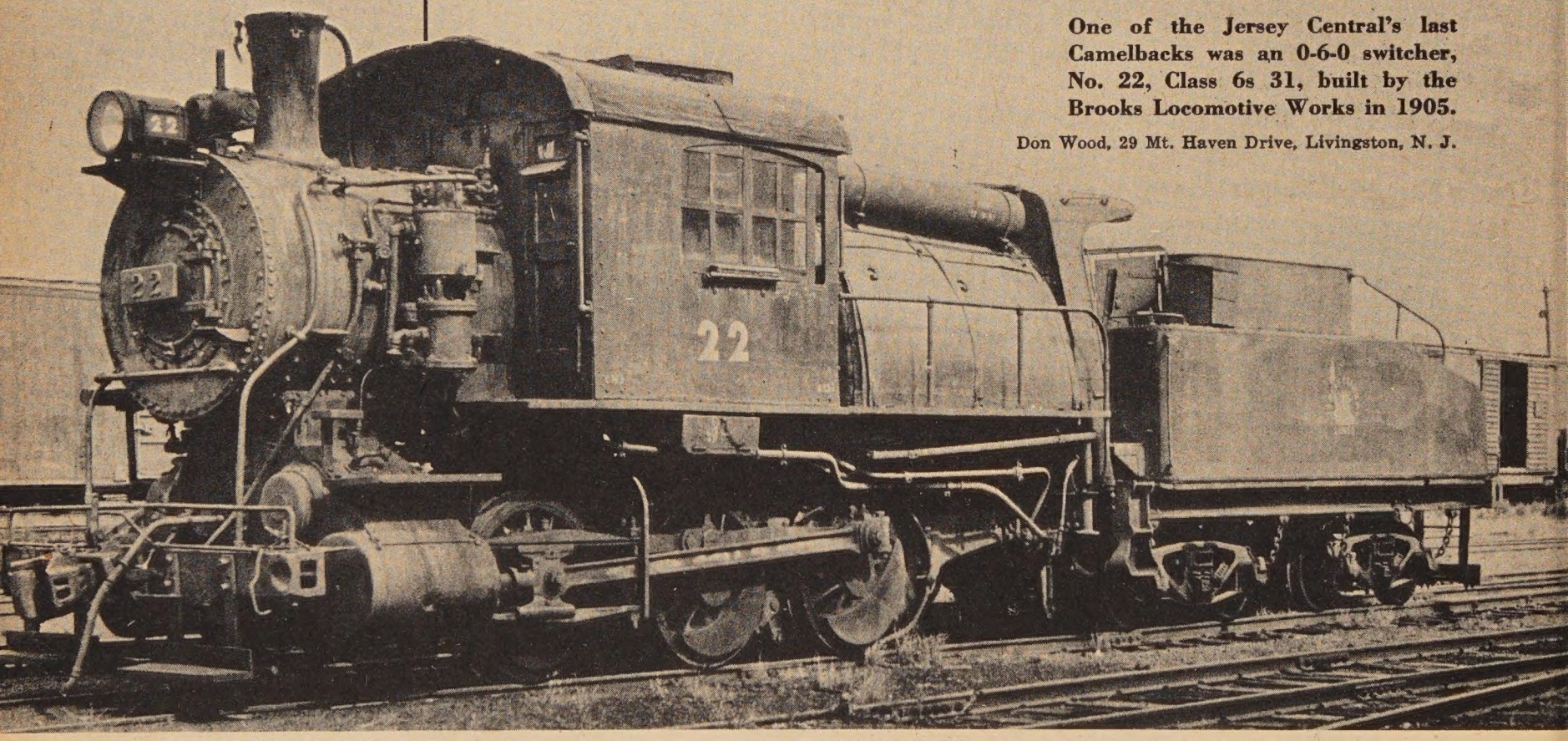

One of the Jersey Central's last Camelbacks was an 0-6-0 switcher, No. 22, Class 6s 31, built by the Brooks Locomotive Works in 1905.

Don Wood, 29 Mt. Haven Drive, Livingston, N. J.

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Top Doctors Answer The Question...

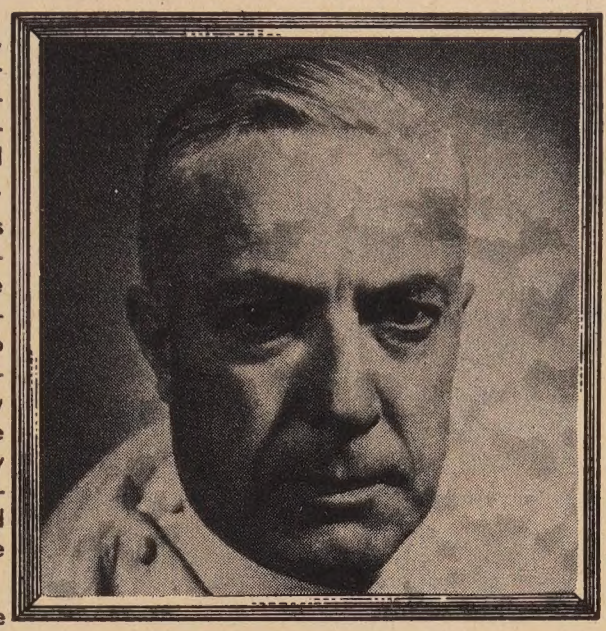
CAN YOU GROW HAIR?

If you are troubled by thinning hair, dandruff, itchy scalp, if you fear approaching baldness—read the rest of this statement carefully, since it may mean the difference to you between saving your hair and losing the rest of it to eventual baldness.

But first, let's understand a few facts about hair loss and baldness. Doctors, dermatologists, and top research men in the hair field are not always in complete agreement, but they do agree that there is no such nostrum as a hair grower. No chemical, no electric gadget, no formula can grow hair. What can be done is to stimulate more blood circulation to the scalp thereby supplying more nutrition to the hair follicles, and to keep the scalp healthy and germ free, thereby removing any outside impediment to normal hair growth.

Now, what can be done to prevent the progressive loss of hair? Doctors do not agree on the most significant cause of baldness. Certain facts do stand out, however, in spite of disagreement. There is little or nothing that you can do if your hair loss is hereditary in origin. Recognize the hard fact that if your hair loss is due to factors beyond scientific control, you are going to get bald no matter what you try. And a large body of dermatologists believes that heredity is the largest single factor causing the loss of hair.

That is the black side of the picture. But there is also a hopeful side. Another large group of dermatologists believes that seborrhea (a common scalp disorder) is a common cause of baldness, and that seborrhea should be controlled to prevent the hair loss it causes. The symptoms of seborrhea are easily recognizable. They are: dandruff, dry or oily scalp, scalp itch, head scales—and a progressive loss of hair.



HOW COMATE STOPS HAIR LOSS

A recently developed formula series called Comate effectively controls seborrhea, eliminates dandruff, stops scalp itch, corrects excessively dry or oily scalp, and effectively stops the hair loss caused by seborrhea.

We cannot and do not take sides in this medical controversy over which is a more significant cause of baldness, heredity or seborrhea. But we do know that we sold thousands of bottles of the Comate Formula Series on a money back guarantee, and less than 2% of our customers were dissatisfied with Comate and asked for and received their money back. We received hundreds and hundreds of letters acclaiming the wonderful performance of Comate not only in controlling seborrhea, but in effectively stopping hair loss. We are reprinting in this advertisement excerpts of some of these letters because they so effectively tell of the amazing performance of Comate.

HOW COMATE WORKS ON YOUR SCALP

This is how Comate works: (1) By its rubifacient action, it stimulates blood circulation to the scalp thereby supplying more nutrition to the hair follicles. (2) By its germicidal action, it kills scalp germs on contact, thereby eliminating an outside impediment to normal hair growth. (Comate's germ-killing properties have been proven in a series of scientific tests by a leading testing laboratory—copy of laboratory report on request). (3) Comate controls seborrhea, stops scalp itch. By its keratolitic action, it dissolves dried sebum, head scales, and ugly dandruff. Used as directed, it tends to normalize the secretions of your sebaceous glands, controlling excessive dryness or oiliness. A few treatments and your hair looks more beautiful, more vital and healthier. Today there is no longer any excuse for any man or woman to neglect the warning signals of impending baldness. Comate must help you or it doesn't cost you a penny.

COMATE IS UNCONDITIONALLY GUARANTEED

Now, here is our compelling offer. Try Comate in your own home. In only 10 days your hair must look thicker, more attractive and alive. Your dandruff must be gone, your scalp itch must stop. In only 20 days, you must see the remarkable improvement in your scalp condition and the continued improvement in the appearance of your hair. After 30 days you must be completely satisfied with the rapid progress in the condition of your hair and scalp, or return the unused portion of the treatment and we will refund the entire purchase price at once.

You now have the opportunity to increase the life expectancy of your hair at our risk. So don't wait. Delay may cost you your hair.

© COMATE LABORATORIES, INC., 20 W. 45th St., N. Y. C. 36

MEN AND WOMEN COMMEND COMATE

These are a few of the unsolicited testimonials received every day from grateful men and women all over the country. Once you've tried Comate you'll rave about it, too!

"I used to comb out a handful of hair at a time. Now I only get 4-6 on my comb. The terrible itching has stopped."
—L. H. M., Los Angeles, Cal.

"My hair has improved. It used to fall out by handfuls. Comate stopped it from falling out." —D. M. H., Oklahoma City, Okla.

"My hair has quit falling out and getting thin."
—D. W. G., c/o FPO., N. Y.

"My husband has tried many treatments and spent a great deal of money on his scalp. Nothing helped until he started using your formula."
—Mrs. R. LeB, Piqua, Ohio

"Comate is successful in every way you mention. Used it only a few days and can see the big change in my scalp and hair."
—C. E. H., N. Richland, Wash.

"My hair was thin at the temples, and all over. Now it looks so much thicker, I can tell it."
—Miss C. T., San Angelo, Tex.

"Now my hair looks quite thick."
—F. J. K., Chicago, Ill.

"My hair had been coming out and breaking off for about 21 years and Comate has improved it so much."
—Mrs. J. E., Lisbon, Ga.

"I've used a good many different 'tonics.' But until I tried Comate, I had no results. Now I'm rid of dandruff, and itchy scalp. My hair looks thicker."
—G. E., Alberta, Canada

"Used it twice and my hair has already stopped falling."
—R. H., Corona, Cal.

"No trouble with dandruff since I started using it."
—L. W. W., Galveston, Tex.

"It really has improved my hair in one week, and I know what the result will be in three more. I am so happy over it, I had to write!"
—Mrs. H. J., McComb, Miss.

BALDNESS WON'T WAIT! ACT NOW!

COMATE LABORATORIES Inc., Dept. 3409-C
20 West 45th Street, New York 36, N. Y.

Please send at once the complete COMATE hair and scalp treatment (60 days' supply) in plain wrapper. I must be completely satisfied with the results of the treatment, or you GUARANTEE prompt and full refund upon return of unused portion of treatment.

☐ Enclosed find $10. (Cash, check, money order). Send postpaid.

☐ Send C.O.D. I will pay postman $10 plus postage charges on delivery.

Name_____

Address_____

City_____ Zone____ State_____

RUSH THIS NO-RISK COUPON TODAY!

Puts You in the BIG MONEY Tailoring Business Quick

MAKE UP TO $30 IN A DAY!

If you'd like to make up to $30 in a day, even in spare time, I'll send you this amazing $10.00 Tailoring Kit **absolutely Free!** Contains everything you need to start you in big-pay Made-to-Measure Tailoring Business — over 100 Actual Fabrics, Style Display of smartest new Suits and Coats for men and women, at low prices—plus complete money-making plans and equipment. No experience needed—just show Kit to friends, neighbors, fellow-workers, etc., take easy fast orders, **collect Generous Advance Profit.** We deliver to customers.

YOUR OWN SUITS to Wear Without 1c Cost!

Your best-selling ad is your own Made-to-Measure Suit ... and we'll show you how to get yours without paying 1c! Mail coupon today for Valuable Tailoring Kit and Suit Offer—all sent FREE!

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STONE-FIELD CORPORATION, Dept.N-706
532 S. Throop St., Chicago 7, Ill.

Rush FREE-and-Postpaid, your valuable $10.00 Tailoring Kit so I can start making good money quickly. Include Actual Fabric Samples, Style Display, money-making plans and details of how I can get my own Suit without a penny of cost.

*Name*_____ *Age*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

MAIL CAR

Running Orders, Waybills, and Sandhouse Gossip—from Railroaders, Fans, and the Editorial Crew

NOW IT CAN BE TOLD. Franklin D. Roosevelt was a railfan. He covered 243,827 miles by rail while occupying the White House, thus becoming the most-traveled President in history. He liked to figure out his own train schedules. But on one westbound trip from Washington he made a 24-hour mistake in his itinerary. Railroad officials, let into the well-guarded secret, had his train pulled into sidings at night to kill time. Finally the President reached his destination, San Diego, at the exact moment his home-made timetable had specified. •

TWO TRACKS are doing the work of four on the New York Central for 163 miles of Buffalo-Cleveland main line, the other two having been taken up some time ago and replaced by centralized traffic control.

This is the world's largest CTC system in two-track congested territory. Each of the original four tracks was a single-direction track. Now, with CTC, the two that remain could handle either-direction operation. The same number of trains (nearly 85 daily) are accommodated by more intensive use of the two remaining tracks. Installation cost, $6 million, is being met by cuts in the maintenance and operating expense, cuts which CTC made possible.

These details come from Anaconda Wire & Cable Co., 25 Broadway, New York City, which has been supplying the nation's railroads with electrical wire and cable for over 25 years.

Anaconda also supplied our current front cover, a Peter Helck oil painting of a scene on the Kansas City Southern. Helck ranks second to none as a railroad illustrator. Your editor is rather proud of a Helck original, showing a steam-powered freight train on a mountain grade, that hangs in his home. •

NO WONDER Miss Joan Bennett turned to railroading for an adventuresome career. The Casey Jones legend is in her family history. Two of her grandparents lived in the same boarding house with Casey. A great-uncle fired for Casey, later became an Illinois Central engineer himself, and died in a train wreck in 1936. Joan's father, Henry I. Bennett, is an electrician in the IC shops at Paducah, Ky. Besides receiving 14 awards for suggestions, he invented an electrical device that saves two days of working time.

True to Casey Jones tradition in her family, Joan Bennett is a railroader.

With this background plus nurse's training, Joan became an IC stewardess and is assigned to both the *City of Miami* and the *City of New Orleans.* A blue-eyed blonde, she likes golf, piano, sewing, and modern books such as biographies and current novels, not to mention *Railroad Magazine.* •

101 YEARS after the first transportation of a circuc by rail, the iron horse and the big top have finally parted company, laments Bob Staats, 2222 Nimrod St., Ridgewood, N. J. He writes:

"John Ringling North, head of Ringling Brothers-Barnum & Bailey, is asking his stockholders for permission to sell their 90 railroad cars and all of their wagons. Last spring the 'Greatest Show on Earth' used 15 cars, plus many motor trucks and trailers, on its round trip between Florida winter quarters and New York and Boston, but has not used railroad cars since then and probably will never do so again.

"The only other railroading circuc in recent years, the Clyde Beatty outfit, has sold its cars to railroad companies for piggyback service and is now motor-

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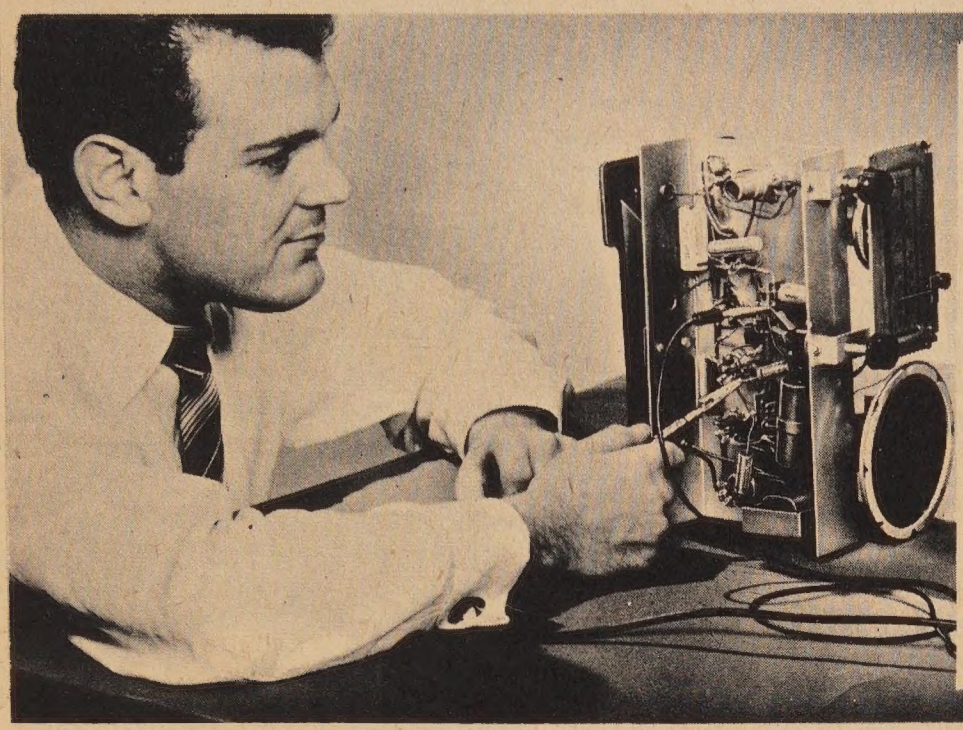

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ized. But four carnivals still ride the rails in their own cars: the World of Mirth (55 cars), in which I have a concession show; James E. Strate's Royal American Show (40 cars, including the only private railroad car left in show business); Cetlin & Wilson (35 cars), and the Olson Shows (a few cars). The two biggest carnivals tour both U. S. and Canada." •

NEWS BRIEFS. The familiar "candy butcher," with his big sandwich basket and huge coffee pot, may soon disappear from the Pennsy. Coach dining-service men on some PRR trains now use gleaming stainless-steel and plastic "chef's carts," which navigate the aisles and offer you a variety of food and beverages at seat-side. This type of vehicle has just made its debut on New York-Washington runs.

Speaking of food, C&O celebrated the 25th anniversary of its *George Washington*, the world's first air-conditioned train, by serving a special dinner to its passengers for $1.25—the price that was charged on the train's inaugural run in 1932. At today's rates, that same dinner would cost you from $3 to $4.50.

This coming winter the Southern Pacific will replace steam with electric power on its rotary snowplows. SP is making this conversion in its Sacramento shops.

Today, some 120,000 Negroes have jobs in 87 different categories on railroads, the largest number of this race employed in any single American industry, reports *Ebony* magazine. They earn an estimated $1½ million a day, excluding tips, and well over $500 million a year.

Canadian National's new Queen Elizabeth Hotel in Montreal, which opens next spring, will have 36 miles of carpet on its 21 stories.

The Sacramento Northern has been authorized by the ICC to abandon its six-mile Oroville branch.

To handle U. S. mail the railroads own and operate more than 2,000 Railway Post Office cars plus a fleet of 11,500 mail-storage cars, not to mention station and terminal facilities.

New York Central is said to be the only large road today that has all of its Pullman and lounge cars equipped with the Good Book, having recently received 500 Bibles for that purpose from The Gideons International, an association of Christian business men, 212 E. Superior St., Chicago. The placing of Bibles aboard trains is an old custom, dating back to the days when some roads refused to "desecrate the Sabbath" by running trains on Sunday.

Want to buy a bus line? New Haven Railroad is trying to sell its Connecticut Co., a highway subsidiary that used to operate trolley cars. •

LONGEST possible rail journey on our hemisphere is 6009 miles from Cutuco, El Salvador, in Central America, to Dawson Creek, B. C., Canada, according to W. P. Grant, 1420 Madison Ave., Oxford, Miss.

"If you don't want to travel quite that far," he adds, "ride from Cutuco to Churchill, Man., only 5969 miles. You can make either trip by train, but not in a through car, because the El Salvador and Guatemalan railways are narrow-gage. There is no more passenger service over any of the long routes mentioned by C. T. Steeb in June *Railroad*." •

BRASS POUNDER. "Some authors refer to any Morse man as a *brass pounder*," protests telegrapher Zeno T. Wilson, 130 First Ave., Salt Lake City, Utah, "but a *brass pounder* is as different from a professional telegrapher as a hill-billy fiddler is from a violinist."

This viewpoint is shared by 89-year-old Frank Graham, Cottage Grove, Ore., who railroaded for many years as a roadmaster, yard foreman, etc., but is now retired. "The telegrapher (not *brass pounder*) of 50 years ago," he recalls, "could read a newspaper, carry on a conversation, and copy a train order, all at the same time. Although he might fall far behind the dispatcher in his copy, he was ready at the end with the correct 'OK completed' order. But the *brass pounder* was slow. He could neither send nor receive fast enough to keep from breaking while copying an order."

"That's right," echoes Leo Bradstreet, a Southern Pacific employe, El Paso, Texas. "When you have hung around depots as often as I have, you can easily tell an expert from a mere *brass pounder*. The expert can copy just about anything from anybody and he sends smoothly. The *brass pounder* sounds like what the words imply. As a rule, his send is slower, jerky, and uneven. We say, 'He has a heavy fist.' "

Jesse M. Grigg, a Morse veteran of Chicago, dissents. "The term *brass*

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Let's look at one of the books and see how the MADE SIMPLE method makes every point absolutely clear by using simple, everyday illustrations and examples.

In PHYSICS MADE SIMPLE, in the section on air pressure, you see this experiment which you can do right now in your own home. "Hold one edge of a piece of letter paper against your chin just below your lower lip, with the paper hanging over and down. If you now blow above the paper, it will rise to a horizontal position as if pulled upward in the air stream." By using only a piece of paper, you have performed an experiment that demonstrates the important principles involved in flight and streamlining.

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pounder does not imply a lack of proficiency. I state this after having known, first hand, what ability was in the old Postal Telegraph's Chicago office."

Says H. W. Peckenpaugh, retired SP train dispatcher, Hillsboro, Ore.: "Now and then I have heard telegraphers referred to as *brass pounders* but I doubt if the term is in common usage."

The late Harry Bedwell, boomer operator and author, used the term for any telegrapher, but he didn't coin it.

"Bedwell was right," agrees LeRoy Palmer, retired boomer telegrapher, Inglewood, Calif. "It was a common term in the old Morse days."

Peter Josserand, Western Pacific train dispatcher, Sacramento, Calif., comments: "The term applies to telegraphers in general but especially to broken-down ops or those with operators' paralysis. The last-named refers to the fact that most old-hand senders, if they stay on the job long enough, lose control of the fine spring of the wrist and the writing muscles. When this occurs, you actually have to *pound* the key. The *bug*, or sending machine, did much to forestall operators' paralysis, because the vibrating spring, instead of the wrist, produces the dots; but if you use the *bug* long enough you may still get a touch of paralysis."

Another active train dispatcher, H, K. Vollrath of the Louisiana & Arkansas, Shreveport, La., says: "I often hear the term *brass pounder* in railroad usage. It pertains to any Morse telegrapher but usually an expert of the old school who manipulates a hand key with dexterity."

"The term refers to all telegraphers, whether in railroad or Western Union service," writes Thomas O. Acree, retired Southern Pacific train dispatcher, Hollywood, Calif. "I, personally, was *pounding brass* at age 14. The expression was current then and still is." •

"IT'S A DANDY article," writes Paul Laning, 626 Pierce St., Sandusky, Ohio, commenting on "The World's Fastest Steam Engine" by Freeman Hubbard (Aug. issue); but he makes these corrections: Page 32, bottom of column 1, change 128 to 411; and page 35, column 1, "Toledo to Chicago" and "Chicago to Buffalo," in both cases substitute *Cleveland* for "Chicago." The errors were spotted by many readers.

Only a telegrapher could make the kind of comment that comes from C. H. Blackburn, 865 W. Spring St., Lima, O.: "Hubbard said on page 34 that the dispatcher's wire was kept open as the train passed each tower and that operators would break into the open circuit to OS her. That was impossible, except as a figure of speech. If the wire was open at DS or any other point, no one else could send." •

PERSONALS. Gray-eyed, with light brown hair, 17-year-old Mary Barkley is proud of her railroad blood. Her grandfather, the late Percy Callahan, was an Erie Railroad telegrapher. Her father, Virgil Barkley, is an Erie car repair man with 29 years' seniority, and Mary likes to ride on his passes. Mary lives at 867 Markle Ave., Marion, Ohio, makes her own clothes, and holds the rank of "honored queen" in a Masonic group of 250 girls

Miss Mary Barkley

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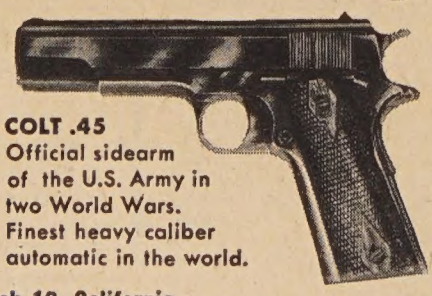

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ranging in age from 12 to 20, the Bethel of Job's Daughters.

A living legend is 82-year-old Sim T. Webb, Casey Jones's last fireman, who resides in a modest bungalow at Memphis, Tenn. "Now paralytic and partly blind," says *Ebony* magazine, "Sim is alive because he obeyed Casey's command to jump to the ground seconds before the crash of the *Cannonball Express* on May 1, 1900, at age 25."

One of our authors, Stewart Holbrook, 2670 N.W. Lovejoy St., Portland, Ore., has just received the honorary degree Doctor of Letters from Pacific University in Oregon. Readers recall two features he wrote for us, "James J. Hill's Great Adventure" and "Engine Smoke in the Big Woods."

Section Foreman Pat Laffey and his eight railroading sons have accumulated 345 years of rail service, most of it on the GM&O.

A Great Northern key-punch operator, Mrs. Wm. McMurdo of Whitefish, Mont., wins a Carnegie medal for valor in saving a boy from drowning.

Because he was reading Barbara Kreimer's *Information Booth* in the Parkview Hospital waiting-room when a doctor announced his wife had just given birth to a girl, Fritz Kuhnke, 711 Washington St., Temperance, Mich., named his new daughter Barbara. He works for Railway Express Agency and has been reading *Railroad* since 1935. Miss Kreimer is proud of having a namesake.

Ten centenarians get monthly pensions under the U. S. Railroad Retirement Act. The oldest, K. Miller of Indianapolis, is a retired Louisville & Nashville section man, born in slavery, who recalls wood-burning locomotives.

Ticket Agent (accosting a well-dressed man): "Hey, you! You've been hanging around this station for an hour. Who are you and what do you want?"

Stranger: "I'm the president of this railroad and I think I want a new station agent here."

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(Continued on page 76)

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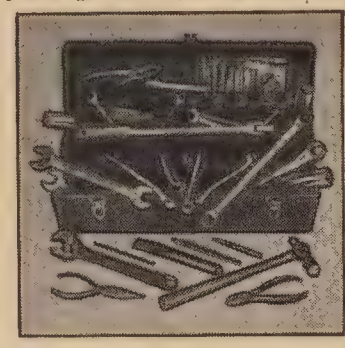

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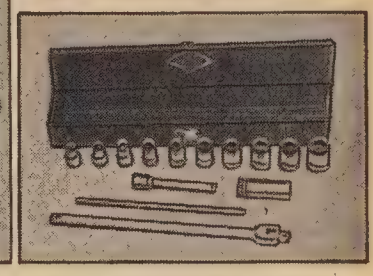

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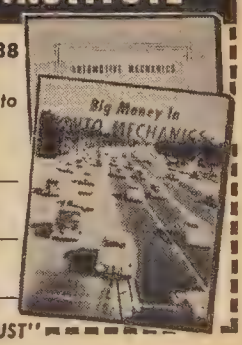
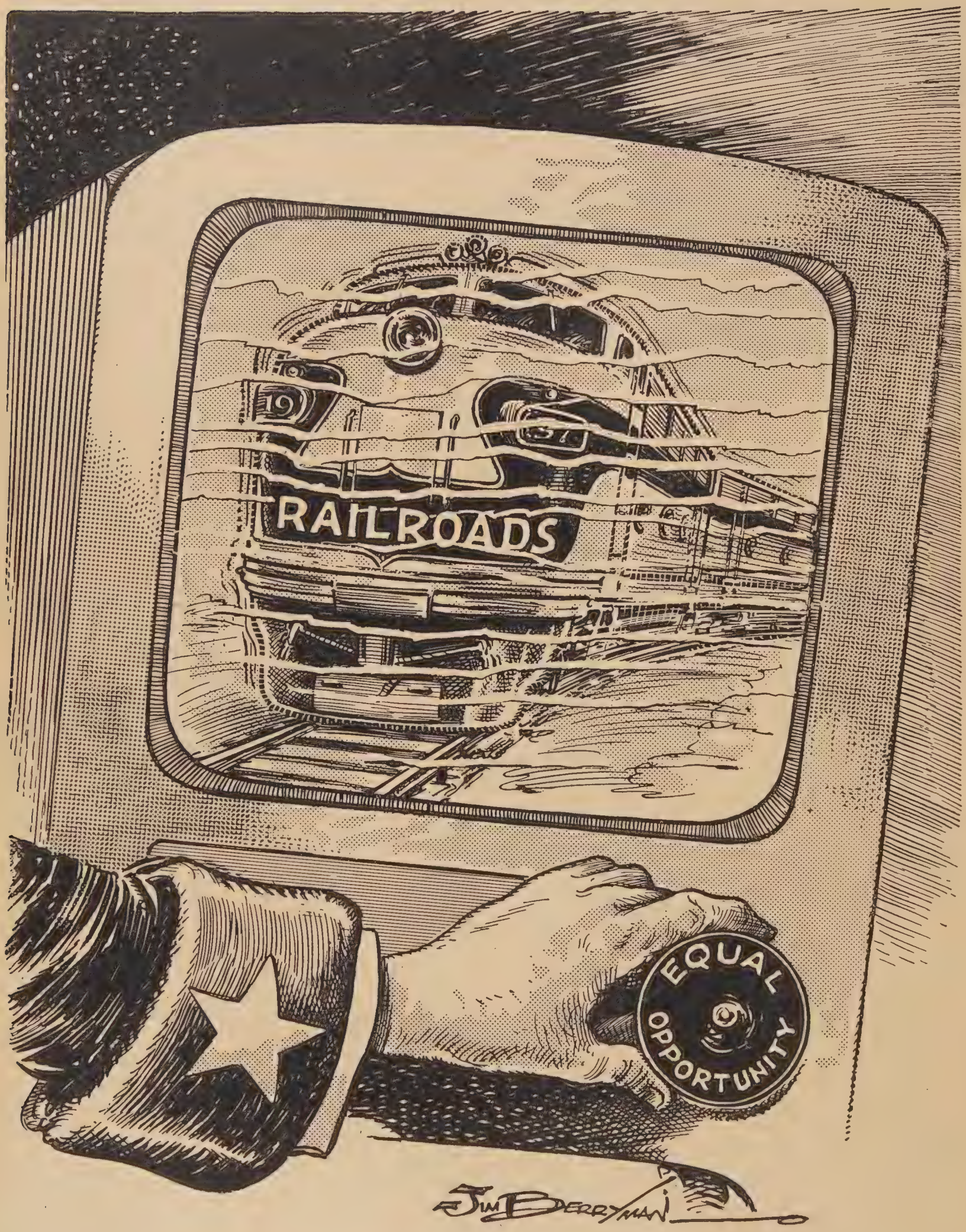


"TRAINING YOU CAN TRUST"

TIME TO CLEAR THE PICTURE



for the ASSOCIATION OF AMERICAN RAILROADS

Photos of the Month

Gordon S. Crowell, 24 Morris Crescent, Yonkers, N. Y.

Gliding through the early morning dew, ghostly No. 16 of the old East Broad Top narrow-gage wheels a consist of empties south of Orbisonia, Pa., on rails that will never again glint under blazing sun nor glimmer in the pale moonlight.

Looks like a steamfan's dream. Scene on a long-gone morning at the Turcot roundhouse, Montreal, with herd of Canadian National iron horses ready for a day's assignments.
Canadian National Railways

Roll back seven years! A Boston & Maine special train, doubleheaded by 2-6-0's, Class B-15, at West Claremont, New Hampshire, is bound for White River Junction, Vermont.

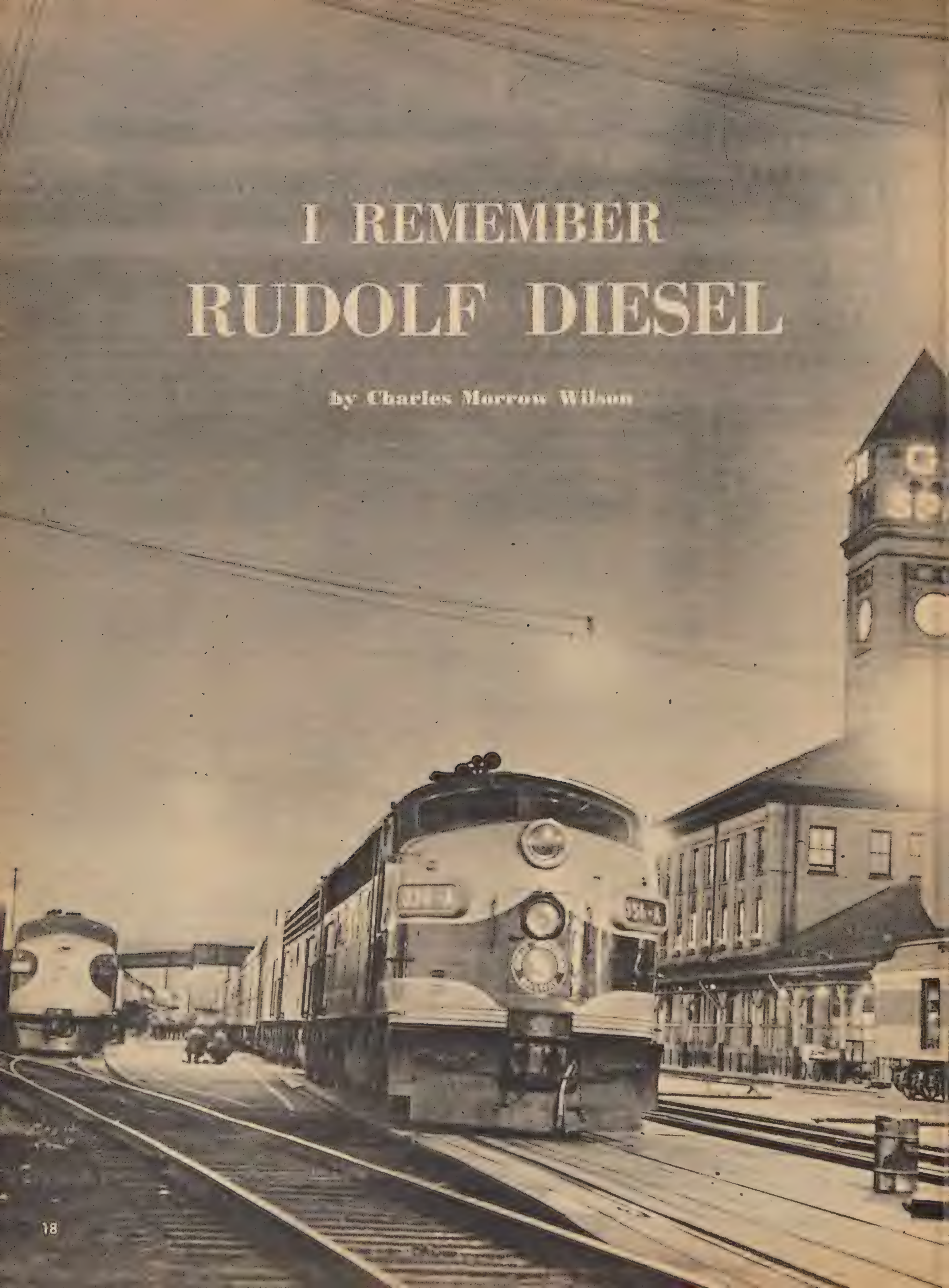
David Johnson, 3 Roosevelt Ave., Dover, N. H.

New York Central's biggest and most modern diesel repair shop, Collinwood, Ohio, was featured recently on four separate days of a "behind the scenes" television program from Cleveland. With back to camera, Machinist Charles Leuenberger signals operator of 200-ton crane lowering freight locomotive onto supports for checkup and inspection.

Diesel power of the present and the future: an Alco DL-701 freight-hauler of 1800 horsepower is burnishing the snowy rails not far from Schenectady, N. Y.

I REMEMBER
RUDOLF DIESEL

by Charles Morrow Wilson



I Met Him in 1912 as He Got Off a Steam Train in Arkansas, at a Time When Only Diesel Himself Could Envision a World in Which His Ideas Would Displace the Steam Locomotive

Rudolf Diesel ("Mr. Locomotive") as he looked to our author in 1912.

AS A KID REPORTER, I met him in person on a long-gone spring morning when he visited my home town in Arkansas. That day I'll never forget. I watched a pair of sparrows build a nest under the eaves of the old Fayetteville depot. Then the steam-powered *Frisco Meteor* roared in through Wilson's cut, scaring off the birds and trailing a thin gray smoke-cloud across the lilac-colored sky, and as soon as the train stopped, a lone passenger swung off and I hurried along the station platform to greet Rudolf Diesel.

At that time he was changing over from "the peaceful iceman," as he smilingly termed himself, to the almost legendary "Mr. Locomotive" whose memory the world honors today.

Less than a month before, at the Borsiger Works in Berlin, the Paris-born Mr. Diesel had just put the finishing touches on a new brain-child that he called the *thermo-locomotive*. This 85-ton iron horse was the first of a long and apparently endless line of diesel-electric locomotives.

The kindly graying engineer had put five hard and expensive years into designing and building this experiment. It was to have pulled long-run passenger express trains on the Hessian-Prussian State Railways, but it never did. His number one locomotive flopped. Even so, Mr. Diesel was supremely confident that some day his principle would revolutionize the railroad industry.

"It is certain to take over all the railroads," he said. "How soon depends mostly on what these monster American railroads do and decide . . . I cannot say how soon it will be. But they will decide sooner or later in favor of this rational heat *thermo-locomotive.*"

I met R. Diesel, as he signed himself, in the early morning of April 2, 1912. If the proprietor of our local weekly paper had not been so busy in his job printing department, he would not have sent me, a mere stripling, to interview the visiting celebrity. But even a cub reporter can get a good break.

Mr. Diesel had come to Fayetteville from St. Louis, 356 rail-miles to the northeast, where he and his wife Marthe were guests of Adolphus Busch. The beer baron had just built a factory at St. Louis for the American manufacture of Mr. Diesel's stationary engines.

Cylinder-shaped leather bag in hand, the visitor stepped off the *Meteor* with an agility that belied his 54 years. He was about five feet ten, straight as a slide-rule, and muscled like an old-school section foreman. Under his black derby was a high broad forehead, with eager blue eyes behind rimless steel spectacles. I recall that his blue serge suit was a bit on the shiny side.

"Are you Dr. Diesel?" I asked.

He mumbled something in German, but after I had introduced myself as a reporter, he shifted to English, which he spoke quite well.

"I am no doctor," he said. "Some people call me a thermal engineer—amateur, of course." He smiled broadly. "I am a peaceful iceman by trade. I started out at the low end of the heat register—cooling water and air, and trying to cool off peoples' tempers. Then I tried cooling foodstuffs and running a cold-storage plant, and finally found out that cold

Modern diesel power at Spokane, Wash.: Great Northern, in center, and Spokane, Portland & Seattle. Donald Sims, Sepulveda, Calif.

and heat are all the same. Next I took to designing heat engines. But I never doctored them. If they don't work, I just build them over again."

When I asked why he had come to Arkansas, Mr. Diesel smiled again and said he just couldn't pass up a bargain excursion rate. "I like trains," he added. "When I first visited the United States eight years ago to exhibit at the St. Louis Fair, I spent most of my time riding trains and looking at your monster railroads."

He asked abruptly if I would please get him a jug of distilled drinking water, which I did. He insisted on paying a nickel for the jug. Then he inquired the way to the local hotel. I pointed to a horse-drawn hack that stood waiting beside the depot, but Mr. Diesel said he would rather walk. Then he gave me the first hint of one reason for his visit to Fayetteville.

"When is the McKeen car due?"

This was a new type of rail-car with two gasoline engines, designed by a Union Pacific motive-power engineer named McKeen. One such car operated between our town and Muskogee, Oklahoma, and I said:

"She'll be along in about an hour."

He crossed the track to where a section crew was working, and chatted with the foreman and examined the various tools. Then our town's only Frenchman, Al Bodeen, market gardener, strolled by and Mr. Diesel demonstrated that he could recognize a Frenchman a block away. He hailed the old fellow in French, and the two held a lively conversation.

"He speaks better French than most Frenchmen," Al told me.

"That's what I get for spending twenty-five years in Paris and having smart women around," Mr. Diesel said, referring to his mother and his wife, both of whom had been language teachers. "I would like to work for one of your big railroads." He said he had accepted invitations to ride the first ship through the Panama Canal and to exhibit his engines at the San Francisco World's Fair, then planned for 1915.

When the McKeen car finally came chugging and spluttering to its siding, Mr. Diesel set his handbag down and his partly-consumed jug of distilled water beside the track and hopped aboard. He quickly made friends with the crew, an engineer and a switchman, both of whom were automobile mechanics as well as railroaders. Then he gave every visible part, fixture, and accessory of the car a very careful inspection. He checked wheels, driving rods, and transmission. Without changing his clothes or even discarding his jacket, the great inventor dropped to his hands and knees, crawled under the chassis, peered and gasped.

By present-day standards, the McKeen car had many faults. But it used its two gasoline engines for the mechanical transmission of power. The engineer told me that if both of its engines were working, the 23-passenger-unit car could climb a moderate grade and that if one engine conked out, the car could still run on the level. If both failed, it could run downhill, but when the transmission went bad, the passengers had to get out and help push.

For some inexplicable reason, Mr. Diesel seemed to have taken a liking to me. When he finished inspecting the rail-car, he said, "Let's walk to the hotel."

I noticed that he hadn't bothered to dust his suit or wipe the grease off his hands. Speaking in the heavily simulated German accent that was popular in American funny papers, he wondered what would happen if his rich friend Adolphus Busch could see him in that condition.

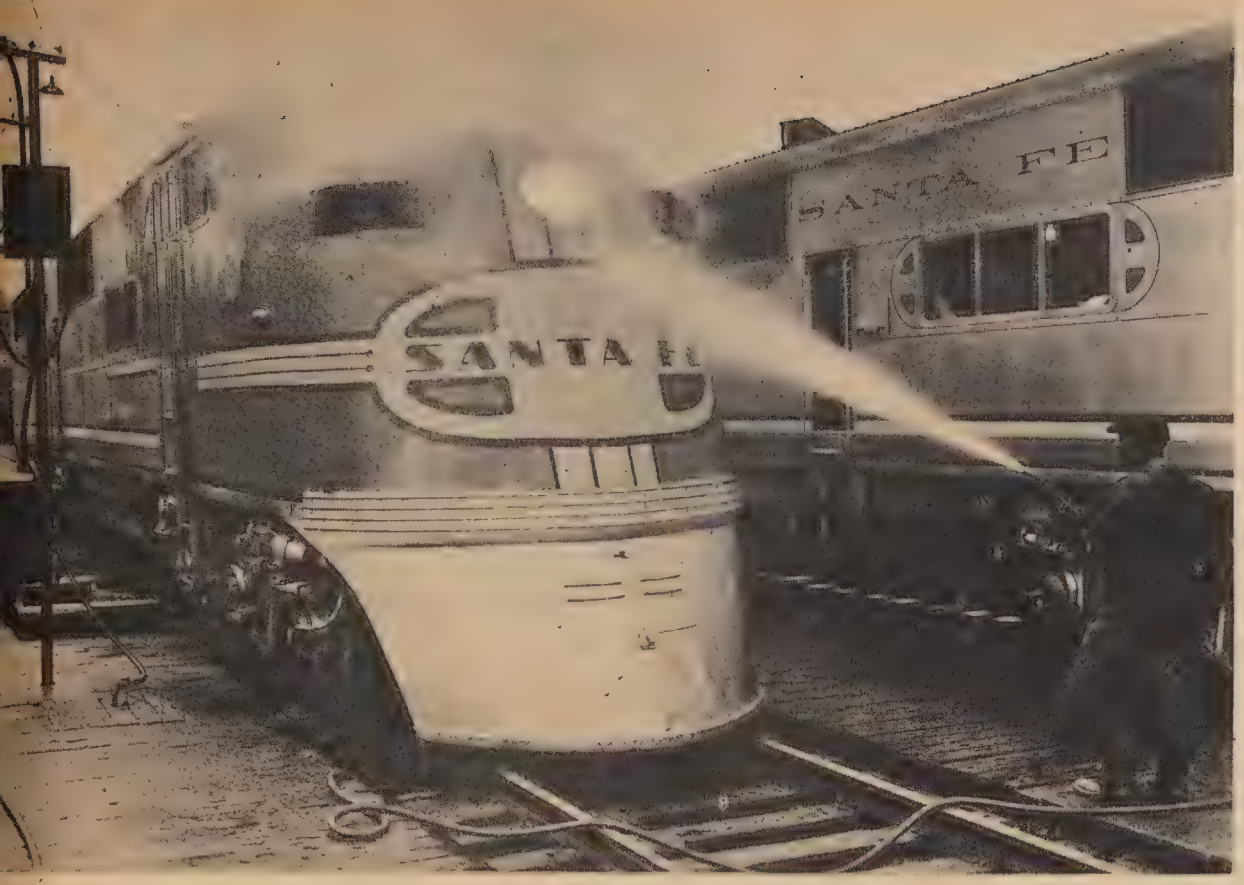
On our way to the hotel, he asked me to meet him again the following afternoon. Meanwhile, he said, he would ride the *Wood Haulers' Special,* a mixed train that ran twice daily on a Frisco branch between our town and the St. Paul lumber camp, 35 miles away.

At that time, northwestern Arkansas, with its many square miles of white oak, was known as "the railroad crosstie capital." The era of the sawn tie was just beginning. Countless millions of ties from the Ozark backwoods were being shipped to railroads all over the world. I gathered from Mr. Diesel's remarks that he was going to scout the possibilities for using his American-

McKeen rail-cars intrigued Mr. Diesel while visiting U. S. The Union Pacific one was shaped like an inverted boat. Passenger

Collection of Wm. Schopp, 445 S. Logan Ave., Trenton, N. J.

Santa Fe Railway



An E-2 is given a bath of steam and cleaning oil. This was the first model of an EMC streamlined diesel-electric locomotive to be built for passenger service.

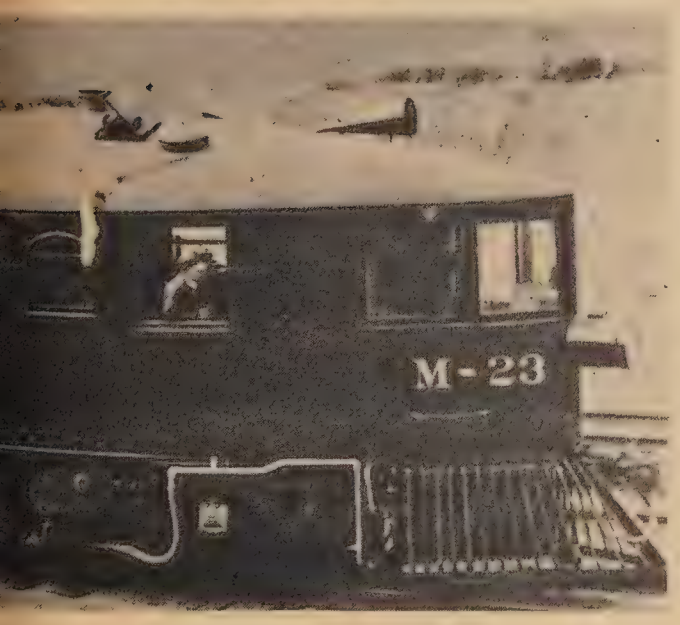
made stationary models to power sawmills throughout the country.

When I met Mr. Diesel again the following day, after his trip into the woods, the inventor was bubbling over with good spirits. I showed him a copy of our local paper which featured my write-up of him. The advertisement of a merry-go-round caught his eye.

"Let's go and see it," he said.

So off we went to Trent's pasture, a mile north of town, where the rig was located. He studied the operating mechanism with real interest.

car in the rear had porthole windows.



"It's partly a railroad," he decided.

That night the great man took a train back to St. Louis. I went down to the depot to see him off. Mr. Diesel was in a reminiscent mood. He recalled that in his very early childhood at Paris he had "made the acquaintance" of Cugnot's original three-wheeled steam wagon, the first "locomotive" ever built, which was on exhibit in the *Conservatores des Arts et Metier* (Industrial Museum), locatetd only a few blocks from his father's leather shop. From then on, railroads had intrigued him. He found American carriers "most interesting," and he gave a list of places he intended to visit by rail.

Ten days later, Mr. Diesel addressed the St. Louis Association of Engineers. It was his first lecture in this country. On that same date an Associated Press story told of Ingersoll-Rand's plans for "adapting" the diesel engine to rail-cars and General Electric's scheme for developing "a diesel-driven rail engine operating by way of electrical transmission of power."

But Rudolf Diesel himself was first with the diesel locomotive. He was *not* first with electrical transmission, which may explain why his *thermo-locomotive* was not an immediate success.

He was quoted as saying that a diesel engine could never be cheap in terms of initial costs; its requirements for superior metals and workmanship prohibited that. "Its economy," he stated, "lies in superior use of the maximum range of fuels."

Diesel's first experimental engine, the one that exploded and narrowly missed blowing his head off, was designed to burn powdered coal. His second engine, which never ran for more than two consecutive strokes, consumed gasoline. So did Models 3 and 4, both of which went into commercial manufacture. But his von Krupp vertical model burned coal tar, and the heavy vertical generator which he exhibited at the Antwerp Fair in 1900 burned castor oil.

Between that date and 1904, when Diesel first visited the United States, he successfully ran his engines with practically every known liquid fuel. He burned corn oil, African ground nut oil (which he had personally dug up from Equatorial Africa), palm oils, various animal fats, turpentines, and most of the "factors" of petroleum, which Diesel recognized as the foremost power fuel of the future. One of the punch lines in his lectures was:

"You could drive my *thermo-locomotive* all the way from New York to San Francisco on nothing but butter—if you had the butter to get rid of."

Diesel kept himself poor largely because of his engine-fuel research. He considered this his duty in terms of future trends which he saw as inevitable. In 1906, he sold his basic German patents and promptly sank the major part of the half-million dollars—the only "big" money he ever had—in wildcat oil ventures designed to provide Central Europe with petroleum. However, he struck a dismal succession of dry holes and by 1908, Diesel himself noted, he was "customarily broke."

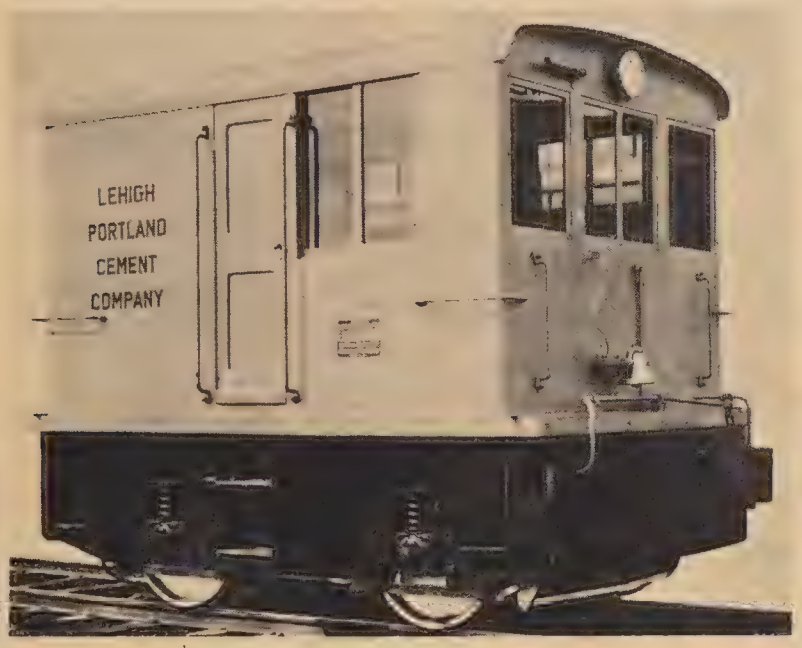
In 1912, the year when I met Rudolf Diesel, there were about 70 diesel engines, all stationary, at work in the United States, and about 20,-

Diesel-Electric Switchers

Except those otherwise marked, all photos by Sy Reich, 92 St. Marks Place, New York City

Vulcan-built power switches cars on and off car-floats at Brooklyn, N. Y. The JSC has two other locomotives, No. 300, an Alco-GE oil-electric, and No. 7, Alco yard switche

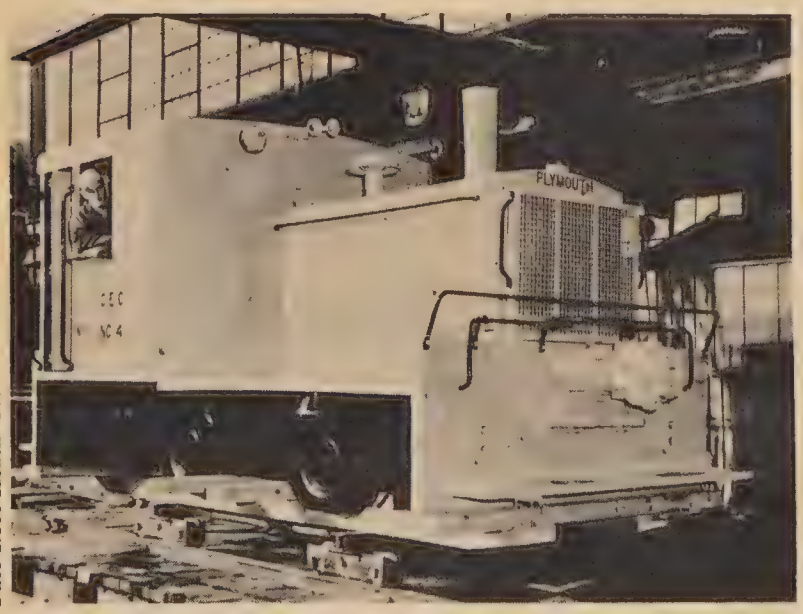
Reading's No. 60, Class OE-7, is a Baldwin yard goat, vintage of 1939, the only one of its kind ever built. It operates out of the Erie Avenue roundhouse in Philadelphia.



General Electric

Forerunner of a standard line of diesel-electric locomotives for industrial service was this Portland Cement Company unit, 150 horsepower, designed by General Electric in 1938.

No. 3907, Class A-6b, is one of the very few diesels built by any railroad. Built at Altoona in 1930, with Westinghouse electrical equipment, it is now working in Philadelphia.



Fate-Root-Heath Co.

The 6000th locomotive produced at Plymouth, Ohio, by the Plymouth Locomotive Works, a division of Fate-Root-Heath Company, is getting a final test prior to shipment overseas.

Harlem Transfer Company No. 2 is one of the original Alco-GE-IR, 300-hp, box-cab oil-electrics built in June, 1926. It is still in service in the lower Bronx section of New York City.

000 diesel engines in Europe, mostly in Germany, France and Italy. At least 80 percent of these in Europe were stationary. Diesel had a veritable gold mine in the vertical engine. And yet at the time of his mysterious disappearance from the steamship *Dresden* in the English Channel on the calm dark night of September 30, 1913, his total estate was valued at less than $100.

How Rudolf Diesel met death will probably never be known. He may have fallen overboard, but there is reason to believe that he was tossed into the sea by agents of the German Imperial Government, which even then was getting ready for war.

His brilliant success with stationary engines, marine engines, and other devices is a story in itself. One of the inventions he patented was the first diesel truck. This vehicle employed the diagonal placement of two small engines to operate a central transmission gear. Though the contraption worked, Diesel withdrew it abruptly from manufacture. He never explained why.

His lifelong friend, George Carrells—who accompanied the inventor on the last boat trip—suggested that Diesel withdrew his motor truck because he looked ahead and saw it as an uneconomic competitor with the railroad, which he insisted was "the indispensable prime mover for all transportation."

If, as Emerson said, "an institution is the lengthened shadow of one man," then the rise and spread of efficient and economical modern power on the rails is a lasting monument to the bespectacled Rudolf Diesel. Today, a vast multitude of freight, passenger, and switching locomotives bear his name, including more than 26,000 in the United States alone. But the inventor did not live to see the successful operation of any one of them, not even the first, a 300-horsepower box-cab switcher that, until a few weeks ago, was No. 1000 on the Jersey Central.

Even so, his genius blazed a trail far into the future, and the man we have come to know as Mr. Locomotive will never be forgotten. ●

33 YEARS OF DIESEL LOCOMOTIVES

by Sy Reich

IT WAS a hot July day in 1924. The steel rails at the St. Louis Car Company plant glinted like fire under the blazing sun. But the group of men who had assembled there to watch a novel demonstration were not interested in sunlight. Their eyes were focused rather skeptically on a new type of rail-car, a gas-electric combine, M-300, the Electro-Motive Corporation's One-spot.

Something was wrong. The darned thing wouldn't budge! EMC's chief engineer, Ernie Kuehn, sat in the cab fussing with the controls. His touch had set the Winton-built engine roaring, but even after he had put the controller in first point the car stood still.

A curious motion occurred. One of the front-truck wheels revolved clock-wise while the other wheel spun in the opposite direction. Obviously, with two wheels fighting each other, no progress could be made.

Kuehn grinned faintly. He shut off the power, crawled under the new contraption, and deftly switched around a couple of wires. Then he climbed back into the cab and reached for the controller. Instantly, M-300 began rolling down the track.

The men had just witnessed the initial test of the first really successful rail vehicle powered by an internal-combustion engine — Rudolf Diesel's great invention applied to railroading. But that wasn't all. They also ushered in a new era. The wave of dieselization was soon to engulf the country, almost the entire globe, down to the smallest industrial line.

Meanwhile, after further tests, the C&NW bought the M-300, while the Northern Pacific acquired a similar car, the B-2, which EMC had built at the same time. The sale of these two cars launched into business the company which today is the largest producer of diesel-electric locomotives.

It all began with the exhibition of the first crude, hand-made, diesel engine at Munich, Germany, in 1898, which caused scarcely a ripple of interest in the transportation world. Steam was then in the ascendancy and railroad men accorded scant respect to Mr. Diesel. But the ugly duckling grew rapidly, and shortly after the turn of the century the world began to appreciate something of the true magnitude of the doctor's work. As early as 1904, General Electric engineers began to design a self-propelled rail-car powered by an internal-combustion engine and equipped with electric transmission. Two years later, the pioneer car was operating on the Delaware & Hudson.

Here were all the esesntials of the modern diesel-electric locomotive in embryo. But years of rail-car experience were needed to work out the "bugs" and develop a transmission designed specifically for rail operation.

The McKeen car was important in the diesel story. William R. Keen was a Union Pacific motive-power engineer. Before 1910 he began building streamlined rail-cars which had a gasoline engine connected to the drivers through a mechanical transmission consisting of chain drive and clutches. At first these cars performed well, but soon the mechanical transmission bogged down from rough wear, and finally they were discarded.

This experiment showed that the

Three-in-one. The latest General Electric design is represented by this sleek-looking demonstrator unit which can haul passenger or freight trains or engage in heavy switching.

Oil engine for road and switching service, built by Alco, Ingersoll-Rand, and General Electric, weighing 124,000 pounds in working order and capable of making 25 mph.

best method to transmit power from a rotating engine to the wheels of a rail vehicle was a traction motor driven by electricity from a generator coupled to the rotating engine.

Between 1906 and 1914, General Electric built 88 such cars. Gradually, however, they were pulled out of service. Why? Because small gasoline motors had been used to drive an 85-ton steel car, the overload resulting in poor performance. Also, the control mechanism wasn't adequate.

After World War 1, research work aimed at producing an efficient control system swung into high gear. GE developed a new type of generator which it installed in the body of an old electric engine at its Erie, Pa., works. This control automatically regulated the engine speed and the voltage to the traction motors as the load on the locomotive and the train speed changed. It functioned well in tests made in 1923.

The stage was now set for an effective "doodlebug." H. L. Hamilton, a former railroad boomer who is now vice president of General Motors in charge of the Electro-Motive Division, had the Winton Engine Company develop and build an oil engine suitable for rail service. EMC workmen assembled the engine and the General Electric generator and equipment into a specially-designed passenger car.

This car was as boldly experimental then as low-center-of-gravity trains are today. It abandoned the customary steel center-sill on the underbody and replaced it with bridge-type construction to cut down the weight. In the quarter-century lifetime of the original EMC cars, none ever showed evidence of sway-back. During its rail-motorcar era EMC produced some 500 units of this design.

In 1924, the year of the M-300 tests, New York City passed an ordinance forbidding the use of steam locomotives in Manhattan and lower Bronx. Other motive power had to be designed to replace the many steamers operating in freight yards there. One answer would have been to electrify the yards, but the high cost of installation prevented this.

Spurred by Electro-Motive's success, the Ingersoll-Rand plant at Phillipsburg, N. J., built a boxish-looking oil-electric switching locomotive, which left the shops in December, 1924, on a tour of Eastern railroads. It consisted of a rounded, front, box cab, with controls at both ends built by American Locomotive Company. Its generator and control system were built by General Electric, similar to the type used by EMC, and it had an Ingersoll-Rand 300-hp oil engine.

After a year of testing, this experimental locomotive was returned to Ingersoll-Rand, was completely rebuilt, and was then sold to the Central Railroad of New Jersey as No. 1000. It was the first successful diesel-electric locomotive and it remained in service until it was retired a few weeks ago, June 13th.

Judged by present standards, the 1000 was crude, its engine heavy and slow. Yet its performance gave a sufficient hint of the possibilities of diesel power to excite enthusiasm among railroad men. After that, 30 identical units were turned out for other roads.

Then Baldwin Locomotive works, the highest citadel of steam power, awoke to the realization that maybe Mr. Diesel wasn't such a nut after all. In 1925, Baldwin built a 1000-hp C-C diesel switcher of box-cab design, and in 1929, the year of the big Depression, a second 1000-hp oil-electric, with a B-B wheel arrangement, but never sold either of them. Both switchers worked around the plant at Eddystone, Pa., until they were scrapped.

Another steam champion, the American Locomotive Company, quickly fell into line. Between 1928 and '30 Alco designed and built two diesel locomotives for the New York Central's Putnam Division, first a 750-hp box-cab freight-hauler, Class DEF, and then an 880-hp passenger type. Neither was successful.

In 1928, Alco-GE built a test locomotive designed to run on the Central's 600-volt DC third rail, the same unit to be an internal oil-electric engine when it was off third-rail territory and to operate on a storage battery when third rail

Southern Railway motor train No. 40, built by St. Louis Car Company and powered by a Fairbanks-Morse opposed-piston engine, probably the first locomotive F-M ever turned out.

First diesel-electric bought by any U. S. road, this Jersey Central 300-hp goat (Alco-IR-GE) marked the beginning of end of steam power. Built in 1924, scrapped June 13, '57.

wasn't available or when its running as an oil-electric engine would be objectionable because of fumes. Numbered 1525, Class DES-2, she was a forerunner of other Central engines of the same type.

All pioneer switchers built through 1930 had the box-cab design, a hold-over from trolley cars and electric locomotives. But the box cab was not suited to diesel-electric switchers. Enginemen found it difficult to see out of such cabs. Besides, they offered poor access to the oil engine, the generator, and other parts for maintenance. A new switching design was necessary.

In 1931, Alco met this need by producing a diesel iron horse of a completely different breed, which the New Haven bought and numbered 0900, Class DEY-1. This one marked the beginning of the current era of yard-switching design.

By this time the combination of Depression and Henry Ford's tin lizzie had given railroad passenger business a body blow. Ralph Budd, the Burlington's energetic president, decided to do something about it. He ordered a three-car, lightweight, stainless-steel, articulated train that would be capable of attaining high speeds. The Edward G. Budd Company fabricated the cars, and General Motors, which had bought EMC and the Winton Engine Company, built a power plant into this train. The result, in 1934, was the *Pioneer Zephyr,* the Burlington's first streamliner, with a 600-hp diesel-electric power plant.

The new train gleamed like silver. On its first non-stop run from Denver to Chicago it covered 1015 miles in 13 hours and 5 minutes at an average speed of 77.6 miles per hour. Mr. Diesel would have been very happy indeed, if he had lived to witness that triumph.

EMC and railroad officials rode the cab, checking operation and speed. The speedometer needle climbed as the engineman blew his horn for highway crossings. More crossings, more horn! At length a loud hiss of air announced that the brakes had gone into emergency. So much horn-blowing had drained the train-line to the point where an automatic brake application was made.

The engineman shut off power and moved his brake handle to service position, with the idea of waiting for the train to stop, recharge, and then continue. But Ernie Kuehn, the EMC chief engineer, who had saved his company's reputation at the testing of the M-300 at St. Louis in 1924, again came to the rescue. Mindful of the bad publicity that an emergency stop would create on this "non-stop" run, Kuehn leaned over the engineman and put the brake handle in release and the power on full.

Speed slackened, but at 15 mph the brakes let go and the *Pioneer Zephyr* accelerated. By working the motors against the brakes and at the same time recharging the train-line, Kuehn kept the wheels turning. Despite this and other near-stops, the dazzling new streamliner pulled onto the stage of the Chicago Railroad Fair at nine p.m., exactly on time. The spectators gathered there went wild with enthusiasm.

This great run heralded the age of streamliners. Other roads began putting streamliners into service between major cities of the nation. These fast, lightweight trains had a disadvantage, though. Their locomotives were part of the train-unit and could not be used separately. Railroad officials wanted a passenger diesel which could be attached to regular equipment, haul it to a destination, be uncoupled, and then hooked onto another train. In short, they wanted a locomotive which had the flexibility of the steam engine plus the economy, convenience, and modern appeal of the diesel-electric.

Electro-Motive gave the problem some study. They decided it would take about 3600 diesel-electric horsepower to haul a train of standard cars over any stretch of railroad.

In June, 1935, two EMC demonstrators numbered 511 and 512, each rated at 1800 hp, left GE's shops at Erie. Each of these box-cab demonstrators, which were as long as a passenger car, contained two 900-hp Winton diesel engines and GE electrical equipment. Under the locomotives were trucks of B-B wheel ar-

The Milwaukee Journal

While freight train 263 waits "in the hole" at Portage, Wis., on the Milwaukee Road, Conductor W. H. Wiselus watches the *Olympian Hiawatha* from the caboose rear platform.

No. 51, the first General Motors passenger locomotive of the present basic exterior design, was delivered to the Baltimore & Ohio in May, 1937; now preserved in B&O Museum.

rangement. Each unit had floor-level engineman control stations at both ends and was equipped with MU jumpers so that both ends could be operated together from one position. Out on the road, they began to show the advantages of diesel-electric power.

One of the 511-512's assignments was to pull a Baltimore & Ohio passenger train from Jersey City to Chicago. B&O motive-power men calculated that it would take at least 5000 hp to pull the train over Sand Patch Hill, a stiff grade in Maryland. They did not believe that these two boxes, rated at 3600 hp, could manage what a large steam locomotive had always challenged.

But the engineers of EMC said, "Wait and see!" The diesel-electrics not only conquered that hill but did it in record time.

Later, on the Santa Fe, Nos. 511-512 showed that the railway would need only one diesel locomotive to operate a train from Chicago to the West Coast, instead of the many steamers then used in relays.

At the end of 1935, GE's Erie Works and the St. Louis Car Company furnished three duplicates of EMC 511-512. One unit, built at GE, No. 50, pulled the B&O's *Royal Blue* between Jersey City and Washington. The other two units, built at St. Louis, wheeled the first *Super Chief*. All three are still in service.

From their experience with 511 and 512, Electro-Motive decided upon certain changes in the design of passenger road diesels. Six-wheel trucks, with A1A-A1A wheel arrangement to reduce axle loading and permit the units to be used almost anywhere, replaced 511-512's four-wheel B-B trucks. The cab position was raised from floor level to an elevated position to increase visibility and to protect the crew in case of collision.

Finally, the box-type cab was discarded in favor of a streamlined cab, which made the locomotive more attractive. The round, streamlined, shovel nose was designed to toss aside any objects that the locomotive might hit. This feature, plus the diesels' low center of gravity, has increased the safety of locomotive operation. The first of this new E-2 model left EMC's La Grange plant in May, 1937, and began hauling crack B&O passenger trains.

The New Haven wanted a diesel that could pull its *Merchants' Limited* from New Haven to Boston at high speed, then turned and brought back on a tonnage freight to Cedar Hill classification yard. Alco-GE had the answer. In 1941, No. 0700-0703, New Haven class DER-1a, went into service. Each of these streamlined cab units had two Alco 1000-hp diesels and two six-wheel A1A-A1A trucks. They were an immediate success and six more identical units were ordered and put into service.

Until this point, diesel locomotives

could be divided into two distinct categories—those built for road service and those built for yard service. The road engines did not have the flexibility or visibility to be used for switching, while the switchers lacked the power for freight service and the speed and steam-heat facilities for road passenger service.

Then came a demand for a unit that could be used for yard switching but also had the power, speed, and auxiliaries for road passenger and freight service. To solve this problem, the road switcher type was developed. This locomotive is basically a yard switcher, with an additional small hood on the side of the cab opposite the main engine compartment. In this auxiliary hood may be found steam boilers, extra fuel, water, and sometimes sand.

Other modifications on the yard switcher increased the horsepower from 1000 eventually to 2400, added weight to boost the tractive effort, and provided regearing for speed range. There was plus a long list of auxiliaries designed to make the unit suitable for road service.

Between 1939 and 1955 some 3,000 diesel switching locomotives were put to work in manufacturing plants throughout the land. Because of their fine performance record under grueling conditions, industry is demanding hundreds of new units each year.

At the beginning of 1957, American railroads had over 32 million diesel-electric hp working for them. Last year these locomotives accounted for 91 percent of the total passenger car miles, 88 percent of the gross freight-ton miles, and 93 percent of the total switching hours.

Practically all of the current purchases of new motive power, whether for railroad or industrial use, are diesel-electric. As a rule, one diesel will replace two steam locomotives in the same type of service—although, for some strange reason, no diesel has yet matched the top speed performance for steamers, 127.1 miles per hour on the Pennsy.

GE has a line of six standard switching diesels ranging from 125-hp, 23-ton bantam to the 660-hp 95-ton heavyweight. Built by assembly-line methods, they offer the economies of mass production plus the benefits of standardization and interchangeability of parts.

Motive-power men tell us that the average diesel's fuel bill is only a third to a quarter of that for a comparable steam locomotive, its labor costs are cut 20 to 30 percent, and its servicing expense amounts to about half of that with steam operation. Maintenance of diesel-electrics sometimes costs only a third as much as the steamers they replace. Diesels do not require elaborate equipment for providing coal and water, for the handling of ashes, or the washing of boilers.

Is the diesel ready when it is needed? "Yes," say the builders. "The average unit is available for use 90 percent of the time." The importance of this figure is shown in the fact that it costs a railroad about $250 a day to keep a locomotive out of service for overhaul.

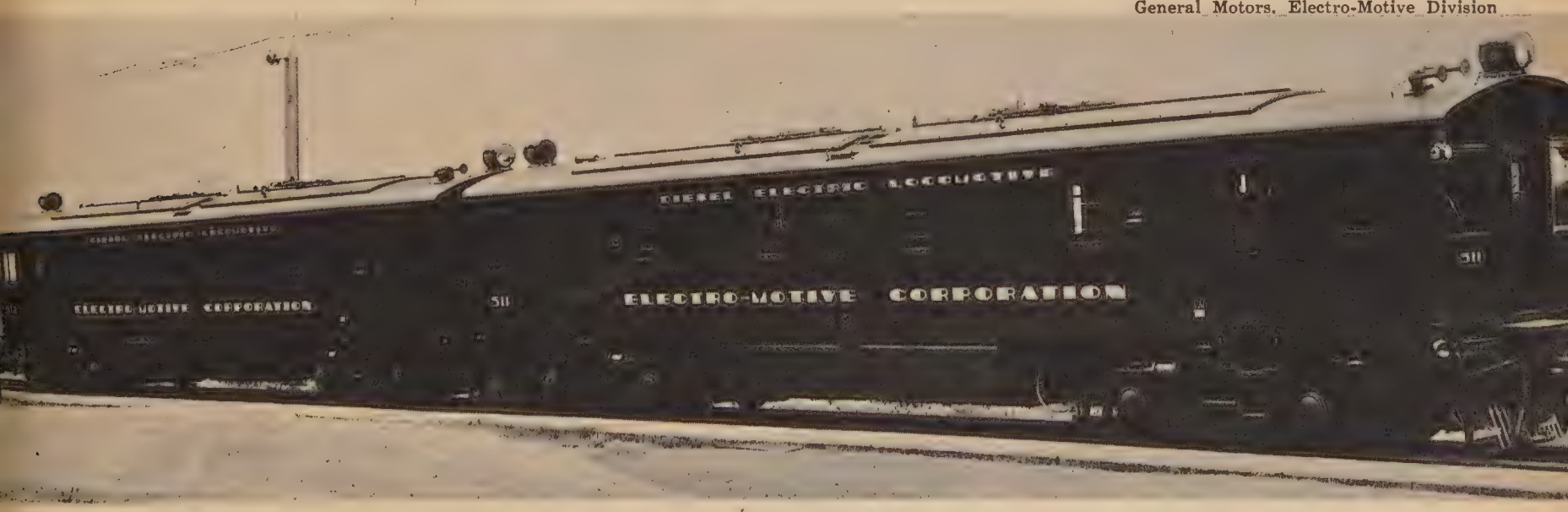
Like a great tidal wave, diesel-electrics have been sweeping across the country, displacing steam power, and this movement will continue far into the future. Ten years from now —except, perhaps, on the Norfolk & Western—a steam locomotive operating in the United States will be a curiosity.

Overseas, too, the American builders are selling diesels in impressive numbers. GE's export line covers nine sizes of locomotives, ranging from 400 to 1980 hp, with a wide variety of track gages and adapted to all types of couplings, brake systems, and clearances.

The size of America's export trade is shown by the fact that Alco's recent orders include 130 diesel locomotive units for Argentina, 100 for India, and 18 for Pakistan.

As long as the world's oil wells continue to gush profusely, nothing can stop the triumphant march of railroad motive power based on Rudolf Diesel's invention. That is, nothing but a successful development of the atomic-powered locomotive, and at this writing such a possibility is remote indeed, due mainly to the fantastically high cost of production.

General Motors, Electro-Motive Division



The first road passenger diesel in U. S.: Electro-Motive units 511-512, photographed outside General Electric works at Erie.

Double-Cab Engines

The High-Wheeled Camelbacks, or Mother Hubbards,
as They Were Called, Spanned 77 Years of Railroad History
and Scorched the Ballast at 115 Miles Per Hour

by H. L. Kelso

EXCEPT for the Southern Pacific's mighty cab-in-front Mallets, no American-built steam locomotive provided a better view of the track ahead than did the double-cab type.

This curious breed of iron horse originated on the old Philadelphia & Reading, where it was known as the Camelback, but when it spread to other roads and even into Canada its resemblance to the hood worn by Mother Hubbard in the nursery rhyme evoked the term *Mother Hubbard* type. A minor controversy is still raging as to which name is the right one, and leading authorities are ranged on both sides of the fence. You can take your pick.

The main cab was set astride the boiler, like a saddle, almost midway between the stack and the firebox. You reached it by climbing up on the pilot (cowcatcher) to the running board and squeezing yourself, rear end first, into the seatbox.

Once esconced on his throne, the engineer became part of the valves and gages that filled the noisy space between the boiler-top and the cab room. Upon being seated and resigned to the terrific heat from the boiler—but with somewhat less dust than you find in the ordinary coal-burner's cab—he uttered a prayer that the main and side rods beneath him would not snap during his trip and wipe the right side of the engine clear of all appurtenances, including the cab itself.

But why *two* cabs? No fireman could spade in the black diamonds from such a forward position, so he was stationed twelve feet or so behind the engineer in a cubbyhole of his own, a rudimentary cab located at the point where the tender latched onto the engine. On some Camelbacks you could hardly call it a cab at all.

That poet who coined the line, "I wandered lonely as a cloud," must have been thinking of a double-cab engine crew. Unless the hogger and ashcat were socially acquainted, they could register in for a passenger run, perform their customary duties around the locomotive, check their watches, read the flimsies, and not utter a word to each other for the remainder of the trip!

On no other kind of engine did a like situation exist—except at times when, for one reason or another, the two crew men were not on speaking terms, as I well remember from my own experience as a fireman.

But this isolation did not dim the glory of high-stepping Reading Camelbacks on the old Reading-owned Atlantic City Railroad. The 55.5 miles of high iron that linked Camden, N. J., with Atlantic City was a veritable racetrack, and the celerity of those humpbacked hogs has become a legend. Today, that same stretch of track is the Pennsylvania-Reading Seashore Lines (see page 38); but in those days, 40 or 50 or 60 years ago, the Pennsy and the Reading competed fiercely for traffic.

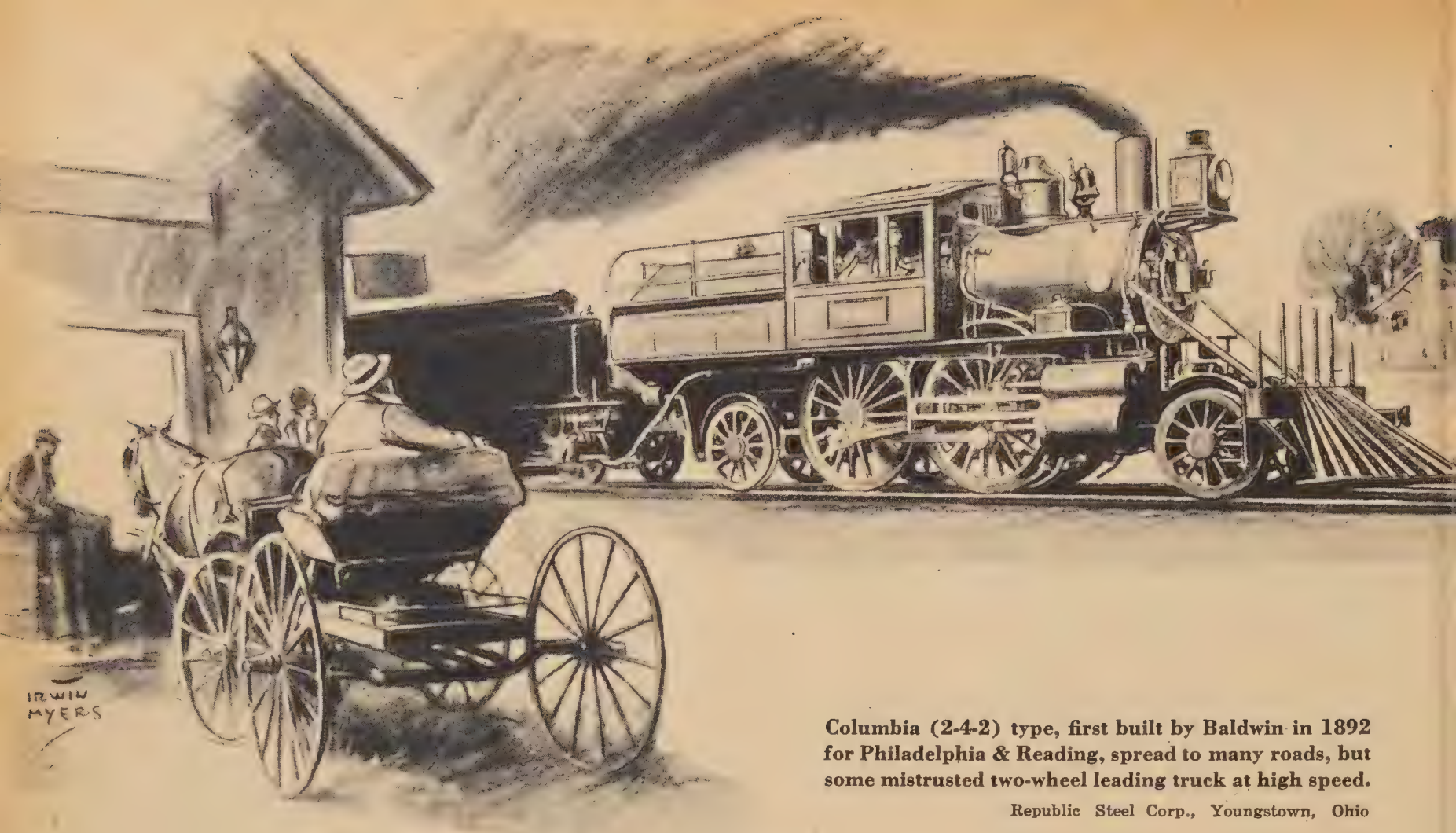
History tells us that any road challenging the Pennsy has a real job on its hands. Even so, the Reading pitted its ballast-scorching Camelbacks against the Pennsy's best and won a goodly share of speed laurels on the AC line.

Rail marathons through the Jersey sand and pine belt were daily events. Violations of the rules against reckless operation were winked at so long as your train made better time than its rival. There is reason to believe that one Reading brass collar ordered his dispatchers to lengthen the running time shown on train-sheets, lest the public be frightened by learning the truth. Stryker T. Linnard of Arlington, Va., who says he "grew up on the Reading and never got over it," tells us that at least one Camelback in regular service actually polished the rails to the shore at 115 miles per hour.

"I refer to No. 343," he writes, "one of the ten Class P5a Atlantic types that the Reading built in 1905. All ten had 86-inch drivers, the largest wheels ever applied to a coupled engine in America. One summer day in 1915 she pulled a special train that carried delegates from all over the country to a Master Mechanics' convention in Atlantic City. I got the details from Ellis A. Cook, a cousin of mine, who fired that run and whose veracity was above question."

To make a good impression on the delegates, the Reading took their fastest throttle artist, Matt Worley, off his regular run and assigned him to the special with a clear track over

Only oldtimers can recall the Jersey City trainshed as it looked back in 1905, with a Jersey Central 4-6-0 Camelback wheeling the fast *Philadelphia Express*. Rail Photo Service, 93 Mass. Ave., Boston, Mass.



Columbia (2-4-2) type, first built by Baldwin in 1892 for Philadelphia & Reading, spread to many roads, but some mistrusted two-wheel leading truck at high speed.

Republic Steel Corp., Youngstown, Ohio

the entire division and with verbal permission to set a new speed record for the trip to the beach resort.

These words were music to Matt's ears. He pulled out of Camden in a shower of cinders and raced eastward. Ellis shoveling coal in the rear cab, kept up a good head of steam. It was a warm, bright day. Piney fragrance filled the air, and the smell of sassafrass and honeysuckle, and very soon the salt from the ocean. At Egg Harbor, Matt really took the bridle off. We are told that he covered the next four miles to what was then called Brigantine Junction at the dizzy rate of 115 per.

But not without protest. Upon arrival in Atlantic City, 42 minutes out of Camden, Matt was on the ground feeling for hot bearings when Sam Vauclain, the famous locomotive designer, came up to him. According to Mr. Linnard, the following dialogue ensued:

Vauclain gasped: "Matt, are you drunk or crazy? You've scared the visiting master mechanics half to death. We clocked you, Matt. You hit 115, do you know that? The back platform of the observation car is strewn with ballast sucked up by the speed."

Matt grinned. "My orders were to get here as soon as I could, consistent with safety. We are safe and I couldn't get here any sooner. That about sums it up."

Vauclain, who had designed the P5a's, including No. 343, glanced at the towering drivers and lowered his voice. "Matt, tell me something. Did you have her wide open?"

"No, I didn't, Mr. Vauclain. I'm not that crazy. Nobody's going to open up this engine and live to tell it. She's the fastest thing on rails."

Well, that is the story. It may well be true but we have no official record to back it up. Warren D. Stowman, who has made quite a study of Camelbacks, thinks that the four-mile burst of speed should be credited to Ten-wheeler No. 675 rather than the Vauclain Atlantic-type No. 343 and that 43 minutes was the fastest running time between Camden and Atlantic City.

One fact is certain: those two-cab engines on the Atlantic City line did some mighty fast running. The first 43-minute run that has come to my attention was scored in 1897 by an Atlantic type, No. 1027, with a zenith of 106 mph on the Egg Harbor raceway, and the same speed was attained in 1928 with a Pacific. An article published in the July-August '53 issue of *Wheels,* the ACF magazine, says the Atlantic "made speeds of more than 100 miles per hour, with a record 115 made in 1904 on a measured 11-mile stretch." All of which brings up the exciting possibility that at least two Reading Camelbacks reached 115. Did they? I don't know.

The Pennsy, famous for its contributions to steam-locomotive progress, had only three double-cabbers on its all-time roster. These three were Class E-1 Atlantics with 80-inch drivers and combined Wootten and Belpaire fireboxes and boilers. Built in 1899 to compete with Reading speedsters, they eventually went over to the Long Island Rail Road and were scrapped in 1912. Although the Pennsy's line between Camden and Atlantic City was about five miles longer than the Reading's, the rec-

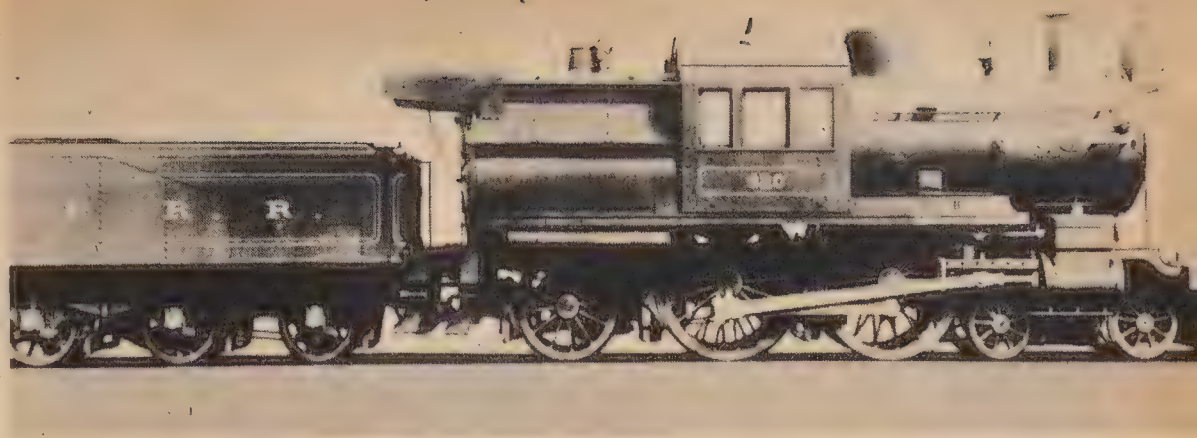
ords show that they also did right well in the matter of speed.

I am reminded of a "worthy brother" whose trail crossed mine on the Omaha Road years ago. I had the privilege of helping him along his way with a meal and an okay from the eagle-eye for a cab ride over our division. This gentleman entertained me with tall tales about Camelbacks.

It seems that he was the world's champion Camelback fireman, an honor he had gained by stoking a fast passenger run on the Atlantic City Railroad. He was so good, he said, that he never had to touch a scoop shovel between Camden and Atlantic City. How did he manage that? Well, he built his fire carefully at the terminal city and then filled the firebox completely with coal, this big slug of anthracite being just the needed amount to take the train over the entire 55.5-mile trip. Being a rookie fireman at the time—my face is red—I believed his story and this hero-worship cost me an extra buck when I finally left him.

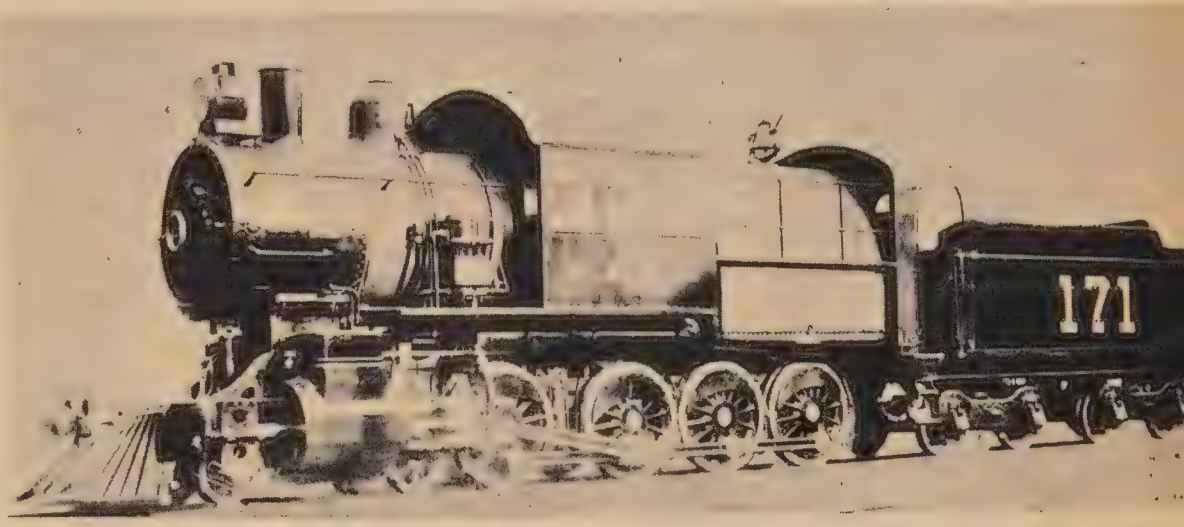
The Reading is not the only road whose two-cabbers were credited with speeds up to 115 miles per hour. Such a record is attributed to the Jersey Central's 592, an Atlantic-type Mother Hubbard. In this case also, an official record of the performance is lacking, but there is no doubt that the 592 was swift and powerful. At times she subbed for the Jersey Central's beautiful blue Pacifics on the widely publicized *Blue Comet* in the 1930's. She was one of the last double-cab engines to run in regular service on any road; and when she retired, instead of being scrapped, she was sent to the B&O's Museum at Baltimore, Md., to be preserved for posterity. You can see her there today.

Like all good Baltimore & Ohio men, Lawrence Sagle of the Public Relations staff deplores the word *Camelback* because it is sometimes confused with the *Camels* that Ross Winans and two other men designed for the B&O many years ago. He accepts the term *Mother Hubbard* but says that on his road the double-cab engines were referred to as



One of the three Atlantic (4-4-2) types that the Pennsy built in its Altoona shops. These three were the only double-cab engines the road ever had. They were used in competition with the old Philadelphia & Reading on the Camden-Atlantic City run. Each was Class E-1, with 80-inch driving wheels and combined Wootten and Belpaire boilers and fireboxes. Later, LIRR acquired them, and scrapped them in 1912.

Collection of Walter A. Lucas



Chicago & Eastern Illinois had only five Mother Hubbards, all of them built in about 1900 by Pittsburgh Locomotive Works (which was taken over later by Alco).

Collection of Granville Thomas, 218 Vine St., Millville, N. J.

Robert R. Brown, 731 42nd Ave., Lachine, Que., Canada

Road's end for gallant 2-8-0. The only double-cab engine ever owned by the old Quebec, Montreal & Southern, No. 150, was built by the Delaware & Hudson in 1884, operated by the D&H, sold to the QM&S in 1920, and was scrapped in 1930.

Snappers, there being some fancied resemblance to turtles. Among the B&O Snappers were 143 2-8-0's, built between 1900 and 1906.

Over on the Lackawanna the name of John Draney is etched indelibly into the history of Mother Hubbards. We have all heard the thrilling tale of Draney and the McKinley Special. The date was September 11, 1901. President McKinley lay on a hospital bed in Buffalo, N. Y., having been shot five days earlier by an anarchist. The seriousness of his condition led his attending physicians to send for Dr. Edward G. Janeway of New York City, who had previously treated the President.

As the Lackawanna's line is 25 miles shorter than the New York Central's between Buffalo and New York, the former road was chosen. Engine No. 936, a Mother Hubbard 4-4-0, was quickly made ready for the trip and Draney took her throttle.

The Special—two Pullmans, a coach, and an official's car—loaded with four tons of pig-iron for ballast, set out from Hoboken, N. J., in a cloud of smoke and cinders. Four hours and five minutes later Dr. Janeway was in Buffalo, hurrying to Mr. McKinley's bedside, and the Lackawanna had set a record between the two cities that still stands. Legend tells us that Draney coaxed his speedster up to a maximum of 115.5 miles per hour.

And now consider the sad case of the lonely fireman who was called a tallowpot, an ashcat, or a bakehead, as well as a lot of unprintable names when he couldn't keep the steam gage needle in a vertical position. But keeping one of those babies hot was not the fireman's sole dilemma. He had to work in a rudimentary cab, out in the weather, winter and summer, rain, snow, or shine. He was required to be an ambidextrous guy, a contortionist, a ballet dancer, and a fellow who didn't mind baking his brains and freezing his backside while he was on duty.

His most annoying problem was how to get each scoop of coal, generally culm, into the firebox rather than on the apron between engine and tender, or even clear out onto the right-of-way. The poor guy usually stood on the tender deck and aimed at one of the two fire doors

David Plowden, 1239 Madison Ave., New York City

Some Camelbacks made passenger-speed records. Others, like the Jersey Central No. 4 at Allentown, Pa., were yard goats.

Early type of Camelback on Lackawanna's Utica Division, Richfield Springs, N. Y.
Thomas T. Taber collection (Railroadians of America)

of the locomotive, which rode on another set of wheels.

At high speeds the vertical jounce and the lateral sway of the engine made the fire doors an erratically-moving target that only a real scoop-artist could consistently hit. But the fuel had to be placed in the firebox precisely where it was needed, not just in through the door. Picture a rookie fireman trying to keep a hump-backed hog hot, right after a spring thaw, when the roadbed was in its roughest stage!

In this connection I recall a story told by John Leslie about the time he and his dad were playing "catch" below the Newton Avenue bridge in Camden, years ago. John's dad was conked on the noggin by a lump of anthracite that fell from a passing train on the bridge. Later, after the doctor had taken a few stitches in the wound, John suggested filing a suit against the railroad company. But his father, a locomotive engineer with Camelback experience, shrugged off the idea.

"Maybe," he drawled, "but then maybe it was just some poor rookie fireman who couldn't hit that damn firedoor yet."

The story of the Mother Hubbard's development is intriguing. Its origin may be traced to mountains of commercially unsaleable Pennsylvania anthracite known as *culm*. The better grade of lump anthracite, or hard coal, had been used with some success since 1840, when Ross Winans' *Camels* roamed the rails, but the slow-burning qualities of culm made it poor fuel for locomotives whose grate areas were confined to between-the-driver limitations.

Many a combustion expert grappled with the problems of designing a firebox that would burn culm and thus save the railroads a lot of money on fuel bills. Many and varied experiments were made throughout the years. At length, in 1877, an ingenious gentleman, John E. Wootten, general manager of the Philadelphia & Reading, designed and patented the now famous wide firebox—a firebox that revolutionized locomotive design all over the world.

But, as is often the case, one refinement or innovation leads to other problems. In this instance the boiler and the firebox became so large that there wasn't room enough for the cab to be installed over and around the firebox in the conventional manner.

Thus, when Wootten's first engine, No. 408, a Ten-wheeler, was built in the Reading shops in 1877, her cab was perched atop the firebox. This location was considered satisfactory insofar as American practice was concerned. Then, in 1878, a similar engine, No. 412, was sent to the Paris Exposition in France. At that point the design ran into a snag, because No. 412's cab jutted up too high for restricted clearances of the French Northern Railway. Thereupon the cab was redesigned so that it could be lowered and placed astride the boiler midway between the stack and the firebox, with a scanty shelter at the rear for the fireman.

There, gentlemen, was the birth of the Camelbacks, or Mother Hubbards. The type soon took hold and flourished, but its popularity began to decline during World War I.

Although double-cabbers graced the rails of some 50 North American roads, most of them served anthracite lines such as the Reading, the Lehigh Valley, the Lackawanna, the Jersey Central, the Erie, the New York, Ontario & Western, and the Delaware & Hudson.

In its early days the D&H had many such engines but when, in 1907, Loren Loree took charge his first outstanding feat was to show builders how to place a conventional cab on an engine with a wide firebox. As D&H two-cabbers came into the shops for repairs they were converted to sharp-looking standard engines.

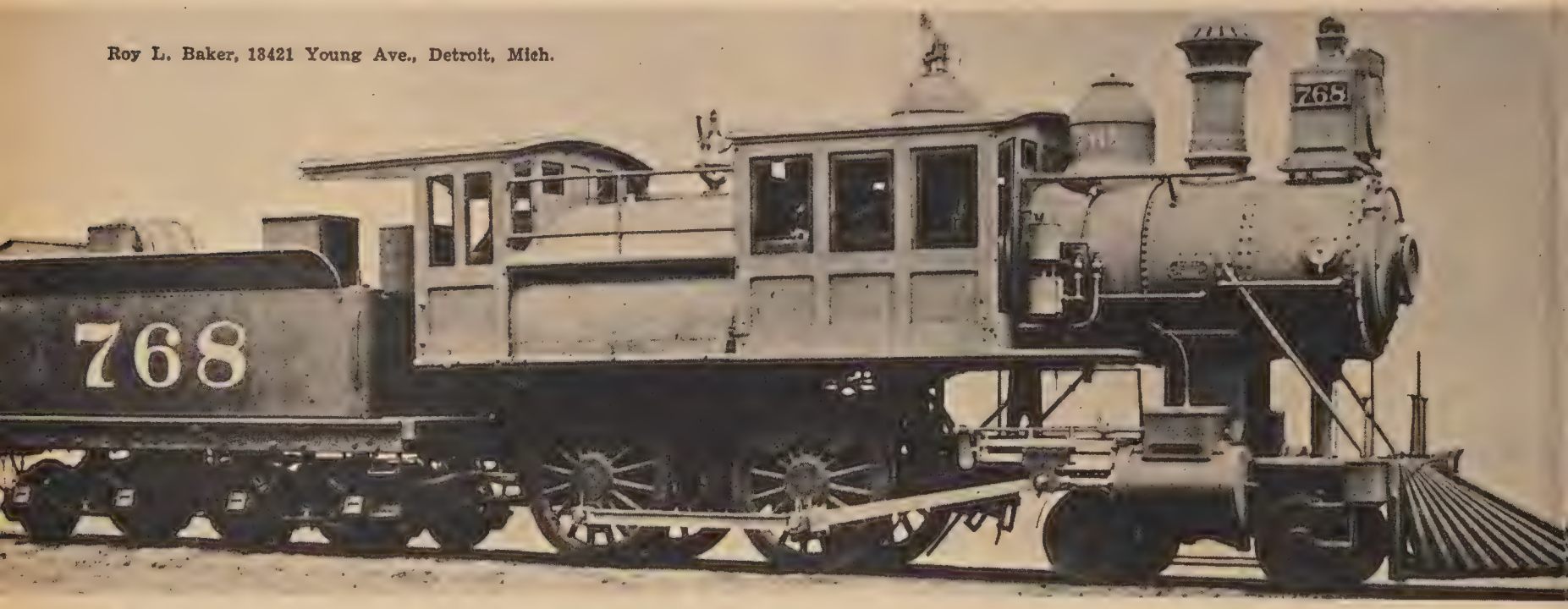
Canadian railways had only 18 Mother Hubbards (maybe 22), according to information from Robert R. Brown and Omer S. A. Lavallee, the two foremost authorities on Canadian rail history. Since Mother Hubbards were built with the engineer's cab placed amidships because of the very wide firebox needed for anthracite-burning engines, this type did not make much of a hit in Canada, a country which has plenty of bituminous coal but no anthracite except what it imports.

One of the double-cabbers was a 2-8-0, No. 150, which the Quebec, Montreal & Southern bought from the D&H in 1920 and operated with

Collection of Granville Thomas

Back in 1895, No. 1027 of the Atlantic City Railroad was reputedly the fastest thing on wheels. This Atlantic type covered the 55.5 miles between Camden and the Jersey coast in 43 minutes, making 106 miles per hour on the Egg Harbor raceway.

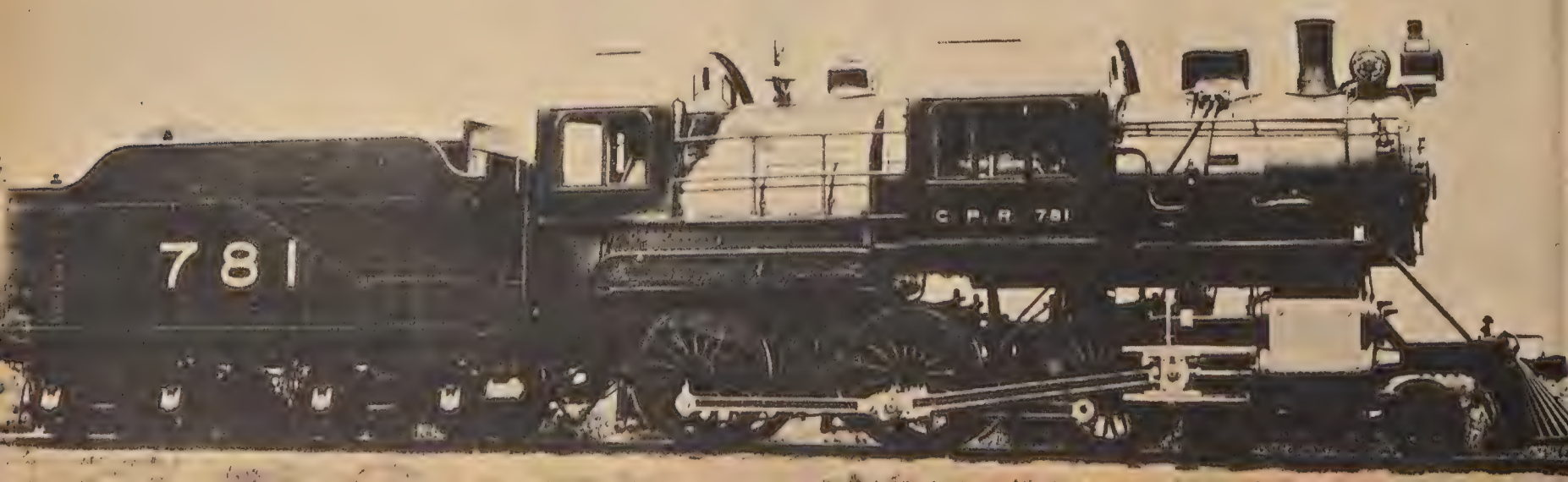
Roy L. Baker, 18421 Young Ave., Detroit, Mich.

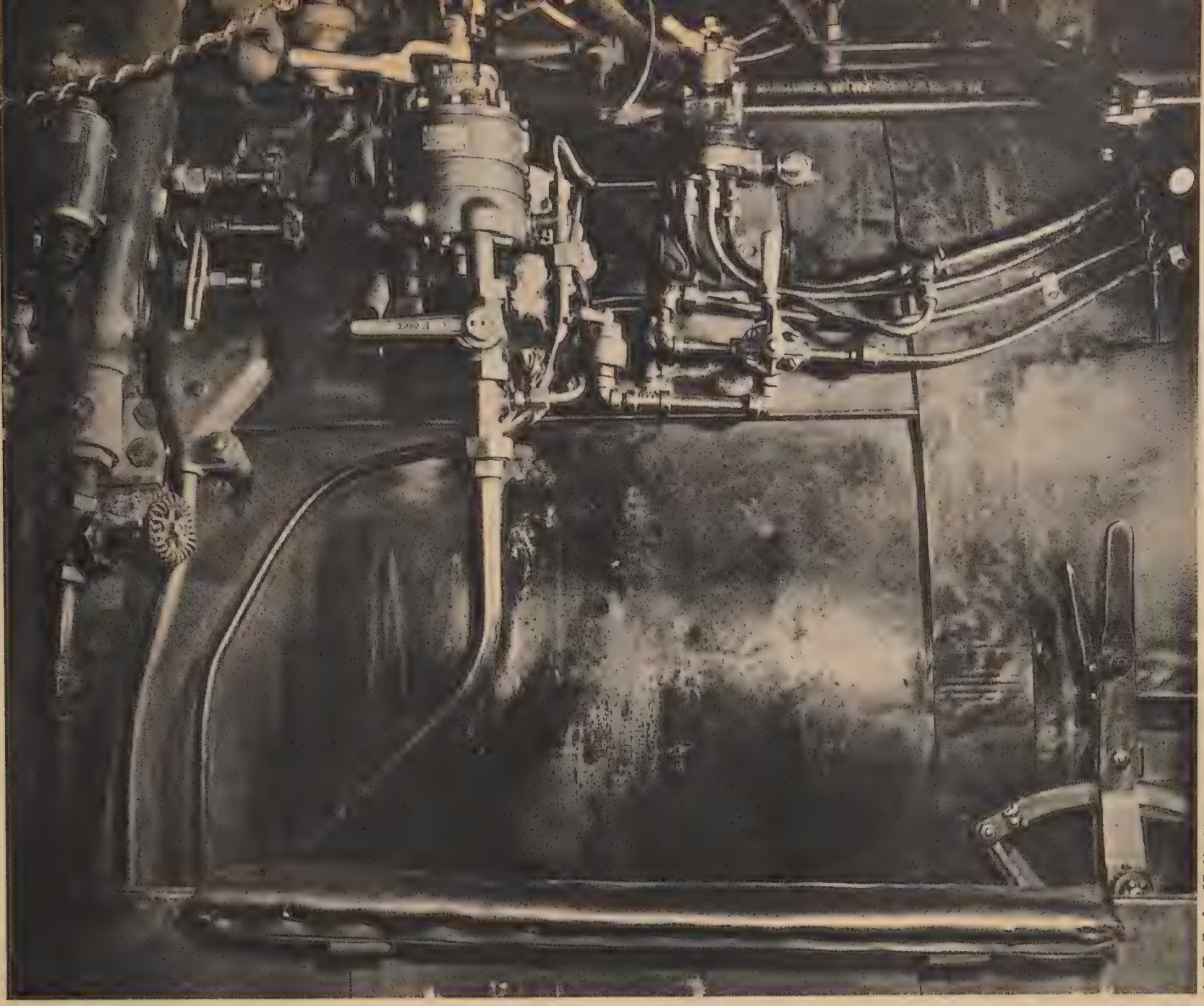


Note the well-developed rear cab on Union Pacific 768, built in 1887 by Rogers; 63-inch drivers and 18x26-inch cylinders.

Another Camelback with a good rear cab: Canadian Pacific Ten-wheeler, Class D-10-D, built at Montreal in 1907.

Collection of Granville Thomas





A. F. Sozio, 17 E. 42nd St., New York City

Engineer's cab on Jersey Central 774, the last Camelback to turn a wheel. Note arm-rest in foreground, throttle in upper right, gage cocks and gage glass at extreme left, power reverse gear in lower right, and airbrake valves in upper center.

some success. In 1929 the Canadian National took over this line, assigned her to work trains, and scrapped her a year later.

The only native Mother Hubbards in Canada were two lots acquired by the Canadian Pacific, 12 cross-compound 2-8-0's built by Richmond in 1899 (later rebuilt as simple one-cab engines) and five simple, two-cab 4-6-0's built by CPR in 1905-1907 (later rebuilt as conventional engines). The ten-wheelers were unusual in having full-sized cabs at the rear for firemen.

In 1930 two of the first lot were assigned to the Esquimalt & Nanaimo. The last two ex-Camelbacks to run on the CPR were scrapped in 1954.

"Besides the foregoing true Mother Hubbards," writes Mr. Brown, "you might stretch a point to include the four steam engines used in the St. Clair Tunnel between Sarnia and Port Huron, 0-10-0 side-tank types with the cab placed atop the boiler. When Baldwin built them in 1891, they were the world's most powerful locomotives of any type. All were scrapped before 1921."

Some odd facts came to light when I delved into old rosters for data on Camelbacks. For instance, the Southern Pacific had but one such engine in its entire history. This one was a Ten-wheeler, No. 2282, built by Baldwin in 1900. Due to her make-up, she created a near-riot among the enginemen, and her career was stormy.

Rebuilt in 1906, she remained on the roster until 1928, when she was scrapped. Bill Knapke, a retired Southern Pacific conductor, tells me that he had this maverick on many a run on the Santa Ana local and he remembers her as a good engine. (June '57 *Railroad Magazine* carried her picture.)

Although the Katy did not use anthracite for locomotive fuel, they had four 2-8-0 Mother Hubbards in service. These were bought expressly to use slack McAlester coal, which was of very high quality, ranking in this respect with America's best, namely Pocahontas coal. The Katy made some much-needed improvements on the fireman's cab, so that, aside from being a bit lonesome, Katy ashcats did not fare too badly.

After World War I very few Mother Hubbards were built. Agitation

Collection of Granville Thomas

Lehigh Valley Camelbacks, like most others, had rudimentary cab for firemen, who stood on tender to shovel coal.

against the center cab was based on the safety hazard resulting from the separation of engineer and fireman. Legislation, the ICC, and the increased size of locomotive boilers doomed this famous breed of iron horse.

In 1954, six of the last seven Camelbacks left on the Jersey Central went to the junk pile. The seventh, No. 774, pulled occasional fantrips until early in 1956, when she, too, was scrapped. Thus 774 became the final Camelback to run on this continent.

Midwesterners who might like to see a Camelback locomotive, as well as many other famous old steamers, can satisfy their curiosity by visiting the Transportation Museum in Kirkwood, Mo., a suburb of St. Louis. There in all her glory stands a Lackawanna Eight-wheeler, No. 952, which is nearly a dead-ringer for John Draney's famous 936. The only other double-cabber extant, so far as I know, is in the B&O Museum. You can see her there today.

Call them what you will, Mother Hubbards or Camelbacks, railroading lost a lot of color when the last one passed into the limbo of things gone but not forgotten. ●

Both have gone since photo was made: Mother Hubbard No. 245 and the railroad itself, New York, Ontario & Western.

Stephen D. Maguire, 802 Tenth Ave., Belmar, N. J.

BOOKS of the RAILS

Dramatic action shot, photographed by Lucius Beebe in 1946, of Nos. 25 and 26 in tandem, rolling into Minden, Nevada, with what represented the entire roster of Virginia & Truckee rolling stock at the time, a mail car, two coaches and caboose.

STEAMCARS TO THE COMSTOCK, by Lucius Beebe and Charles Clegg, Howell North, 2801 Shattuck Ave., Berkeley 5, Calif., 100 pages, $4.50 (plus 18 cents tax).

The first part of the story is presented with all the elegance and charm that personified the famous Virginia & Truckee, "Golden Girl of the Short Hauls." The wealth of Golconda rubbed off on this fabulous line that carried celebrities of that day in ornate Pullmans and the most beautiful and costly private varnish ever outshopped.

The Carson & Colorado, which came later, could not compare in rococo grandeur with its parent and predecessor. But as an end product of the Comstock bonanzas, it made money, and its memory is an endearing one, since the C&C was narrow gage and lived on, sturdy and constant, to serve the end of that wondrous era.

Authors Beebe and Clegg have compiled an incomparable record in pictures and prose that catch the vigor and excitement of the two Nevada lines that played an important part in a glamorous epoch of steam and steel.

Printed on heavy coated stock, with more than 120 illustrations (plus two color plates from paintings by Howard Fogg) *Steamcars to the Comstock* is truly a collector's item.

BULLETIN NO. 95, Railway & Locomotive Historical Society, Inc., Baker Library, Harvard Business School, Boston, Mass., 98 pages. Price to members $2; non-members, $3.

The lead article, "Pineapples, Sugar and War," by Gilbert T. Kneiss is a dramatic account of a trainload of dynamite, running at night without lights, on the narrow-gage Oahu Railway. It happened on that bloody December Sunday in 1941 when the "hot potato" special was ordered to get all explosives away from the Pearl Harbor area.

Other *Bulletin* items include: "The Pittsburgh, Shawmut & Northern," by Charles F. H. Allen, with a series of exciting collision pictures, and many more interesting items.

RAILROADS IN THE LEHIGH RIVER VALLEY, Steam Operation 1836-1953, edited by Randolph L. Kulp and associates, Lehigh Valley Chapter of the National Railway Historical Society, Inc., 602 St. John St., Allentown, Pa., 44 pages, $1.25. (No stamps, please.)

Brief histories of the twelve railroads that haul anthracite and various ores in the valley of the Lehigh River.

TRAINS, Electronic Age Edition, by Robert Selph Henry, The Bobbs-Merrill Co., Inc., 408 Fourth Ave., New York 16, N. Y., 152 pages, $3.95. (Ninth edition.)

Many new pictures have been added, as well as a progress report on varied uses of radar. The author has presented a century of railroading in dashing narrative and a tremendous number of exciting photographs.

FREIGHT TRAIN, by E. C. Reichert, Rand McNally & Co., Chicago, Ill., 28 pages, 25 cents.

This small book covers a freight train, describing the various cars, their functions, and what happens in a hump yard. Illustrated by George Pollard.

P. C. GRAVES

ASK BARBARA: **Railroad questions are answered here every issue by our research expert—as many as space permits. Top priority is given to subjects that seem to be of wide general interest. Address Miss Barbara Kreimer, Railroad Magazine, 205 E. 42nd Street, New York 17, N. Y. No replies will be sent by mail.**

INFORMATION BOOTH

1 *Which railroad in North America today has the fastest engine?*

The Burlington has the fastest start-to-stop passenger run, but we do not know which locomotive now in operation holds the top speed record.

2 *What became of the New Haven 4-6-4 Hudson, 1400 series, that were bought in 1937?*

All have been scrapped.

3 *A history of the Pennsylvania-Reading Seashore Lines, please.*

Over 100 years ago a group of enterprising men saw a future in a sandy stretch of New Jersey's coast known as Absecon Beach. One was Robert Osborn, chief engineer of the Philadelphia & Reading (predecessor of today's Reading Company).

In 1852 they obtained a charter to build a link, the Camden & Atlantic RR., which crossed the state to connect the beach with population centers. The road was completed within the year, and when the last stake was driven, Osborn and his group took a dip in the ocean, a pleasure since enjoyed by millions. The seaside resort was called Atlantic City, and started a new trend in summer vacations.

The first excursion train entered the city July 1, 1854. The first esplanade along the ocean, built at the suggestion of Alex Boardman, C&A conductor, was referred to as Boardman's Walk. Later the name was shortened to boardwalk.

By 1883 both the Pennsy & Reading were serving the resort, each competing for speed and service. But the eventual coming of the automobile forced consolidation of the two seashore routes in 1933, and the best and shortest sections went to form the present P-RSL.

At first both the Pennsy and the Reading supplied steam power for the P-RSL. Then the Reading pulled out its steamers, and the road began using diesel-electrics, but it still has many Pennsy steam locomotives in road and yard service. The engine terminal at Camden, N. J., (see photo) is regarded as a "steam fans' paradise."

4 *Where can I get a railroad map of the United States?*

Try the Hammond Map Co., 1 East 43rd St., or Rand-McNally, 111 Eighth Ave., both New York City.

5 *When did the Maine Central change from wood- to coal-burning locomotives?*

The first coal-burner purchased by the Maine Central was the *Belfast,* No. 51, built by Rhode Island Locomotive Works in 1871. The Portland & Kennebec RR. (leased to the MC in May, 1870) changed over to coal in 1870. The Portland & Ogdensburg (leased to the MC in Aug., 1888) purchased new wood-burners as late as 1881. Two of them, the *Frankenstein* and the *Resolution,* were built by the Portland Co. in 1878 and '81. They were Moguls (2-6-0 types) and became Nos. 109 and 110.

This information was sent in by Harry Treat, a Maine Central retired chief train dispatcher.

Aaron G. Fryer, 6001 Drexel Rd., Philadelphia, Pa.

Steam fans' paradise: Camden engine

terminal of P-RSL, with two Pennsy B6's under coal dock and No. 1920 moving up to be serviced for second-trick duties.

●

6 *Does a steam or a diesel locomotive withstand cold weather better?*

A steam engine.

7 *Who was Phoebe Snow?*

Phoebe Snow was a symbol created by a press agent, back in 1904, to publicize the cleanliness of the Delaware, Lackawanna & Western, which burned hard coal instead of grimy bituminous. Among the many jingles built around the fictional character was this one: "Phoebe Snow,/Dressed in white/ Rides the Road of Anthracite."

DL&W freight cars and timetables now carry the slogan, "Lackawanna, the Route of Phoebe Snow." A deluxe streamliner called the *Phoebe Snow* runs daily between Hoboken and Chicago, the Buffalo and Chicago stretch being operated over Nickel Plate rails.

8 *In the June issue under* "Renumbering of Canadian National Locomotives," *you indicated diesel unit No. 9048 was removed from service. Why?*

She was demolished in a wreck.

9 *I'd like information on the Erie's Camelbacks built by Alco and were used as pushers on the Susquehanna Hill.*

Three 0-8-8-0 Mallet Compounds (that topped in size all Camelbacks, or Mother Hubbards) were built in 1907 for that service. In 1922 they were rebuilt by Baldwin at Eddystone, Pa., as 2-8-8-2's, cab in rear with Wootten boilers, and returned to the road for many years of service as pushers and occasional freight haulers. They were the first 0-8-8-0 Mallets in the U. S.

British Railways, Rockefeller Plaza, New York City

British locomotive *City of Truro* reached speed of 102.3 mph, May 9, 1904, on special run between Plymouth and London.

These were added to, or replaced other two-cab 2-10-0's built by Baldwin between 1892-'95 for pusher service on the same grade.

10 *I have an antique switch lamp with four green lights. When was it used?*

No railroad rules would permit the use of such a switch lamp. It may have been a freak received from the manufacturer, and discarded.

11 *Has any British train exceeded 100 miles per hour?*

Yes. The locomotive *City of Truro,* of what is now called the British Railways, reached 102.3 miles per hour May 9, 1904, hauling mail from the SS *Kronprinz Wilhelm* on a special run from Plymouth Docks to Paddington (London), via Bristol. The load was five 8-wheeled cars from Plymouth to Bristol and four 8-wheeled cars from Bristol to Paddington. The speed record was reached when the train descended Wellington Bank near Taunton, Somerset. At Bristol the *City of Truro* was replaced by *Duke of Connaught,* No. 3065.

Details on an even faster British run will be published in our next issue.

12 *What is the Reading's "navy?"*

The word describes the fleet of floating equipment owned and used by the Reading Railroad at terminals serving the ports of New York and Philadelphia. It includes 21 car floats, 8 diesel harbor tugs, 5 house lighters, 7 deck lighters, 2 scows, a stake boat, and 6 pile drivers and catamarans.

13 (*a*) *Where are the Great Northern juice locomotives stored, and what will be done with them?* (*b*) *Where are the tourist sleeping cars that the line discontinued?*

(a) Seven of the GN fleet of fifteen were sold several months ago to the Pennsy. They include the 5010 and the 5012-5017, all Y-1's, built by Alco-General Electric in 1927-'28 and '30.

The others are stored at Wenatchee, Wash., pending sale or scrapping. They include one Y-1A, five Z-1's, and two W-1's. The Class W-1 5018 and 5019, built by GE in 1946, are the world's largest single-cab electric locomotives, measuring 101 feet between knuckles, weighing 735,000 pounds, with a continuous hp-rating of 5000. (b) They have long since gone to the graveyard.

14 *Does the Chesapeake & Ohio have any T-1's (2-10-4's) in service?*

No, not even any in reserve or held for historical purposes.

15 *What is the Retractable Trailer Hitch?*

A piggyback operation, devised recently by American Car & Foundry, which cuts loading time from two 20-man minutes to less than three.

The Hitch holds the trailer on the car vertically, longitudinally, and laterally at the kingpin in a manner somewhat similar to a highway tractor. It is retractable to permit free movement and contains a cushioning unit to protect trailer and lading. It uses a screw mechanism to raise and retract the Hitch, which moves the lower end of the vertical strut on rollers, permitting the entire Hitch to fold upon itself in a space of about eight inches above the car floor, thus letting the trailer and tractor pass freely over the retracted Hitch.

16 *Is the New York Central completely dieselized?*

Yes, all road and yard operations on the Central's 11,000-mile network in 11 states and Canada are now equipped with diesels. The final steam locomotive, No. 1977, a 37-year-old Mikado, puffed her farewell in the Central's Riverside yard at Cincinnati last May.

17 *What is the minimum age limit for firemen and brakemen?*

Usually 21. Some roads, such as the Santa Fe, will accept promising applicants as young as 18 as student firemen and student brakemen.

18 *Does* "Who's Who in America" *list any railroad employes aside from officials?*

The only one we know of is James W. Earp, a Rock Island passenger conductor, and grand-nephew of Wyatt Earp, famous Dodge City marshal of frontier days. Jimmy has written many stories for *Railroad Magazine* and other periodicals, and authored the book, *Boomer Jones.*

19 *When was the first scheduled train service on the Boston & Maine?*

June 24, 1835, between Boston and Lowell, Mass., on what was then the Boston & Lowell Railroad.

20 *(a) What is the speed limit for New Haven passenger trains? (b) Top speed of the Pennsy's G-G1's?*

(a) Theoretically, 90 mph on the Shore Line between Boston switch and Readville SS 181, but no schedule on any American road authorizes a train to travel so fast. (b) Rated top speed is 100 mph. Normal operating speed limit, 90 mph.

21 *Which line was known as the Road of the Apostles?*

The 23-mile Bartlett Western, an early railroad in Texas, named for the stations along the line, St. Matthew, St. Mark, St. Luke, and St. John. It was abandoned years ago.

22 *The other day I saw two rail detector cars designated AAR X201-X202 and AAR X203-X204. Do they comprise the rolling stock operated by the Association of American Railroads?*

Yes. These cars are leased to AAR members. Last year they tested more than 7,500 miles of rail. The AAR Detector Car Service, headquartered at the Association's research center in Chicago, was organized in 1927 to develop and perfect cars to detect all types of rail defects and to provide the leasing service to member roads. Aside from the two AAR outfits, 12 detector cars are owned and operated by member roads with equipment developed by the Detector Car Service.

This service furnishes emergency repair parts, as well as checking, rebuilding, and adjusting electronic equipment on railroad-owned cars.

23 *Furnish details on the building of the Atlantic Coast Line between Palmdale and Everglades, Florida.*

Few details are available. Records show construction as follows: Sebring to Harrisburg, 1918; Harrisburg to Goodno, 1919; Goodno to Immokalee, 1921; Immokalee to Deep Lake, 1928; and Deep Lake to Everglades (purchased in 1928 from the Deep Lake RR. Co.). Passenger service on that route was discontinued in 1955.

24 *When was the first iron railroad bridge built in the United States?*

The first we know of was opened for operation on the old Philadelphia & Reading in the Manayunk section of Philadelphia, on May 4, 1845.

25 *How is the problem of expansion met in continual welded rail?*

Most movement in strings takes place in about five rail-lengths at each end. However, additional anchoring and full ballast section are depended on to prevent lateral and longitudinal movement of long rails during temperature changes. When properly anchored and ballasted, little difficulty is experienced by expansion or contraction because it is absorbed by stresses set up within the rail itself.

26 *Does the Duluth, Missabe & Iron Range still have the steamers it bought from the Great Northern?*

The DM&IR never purchased GN steam power. See roster in the Oct., 1956 issue of *Railroad Magazine.*

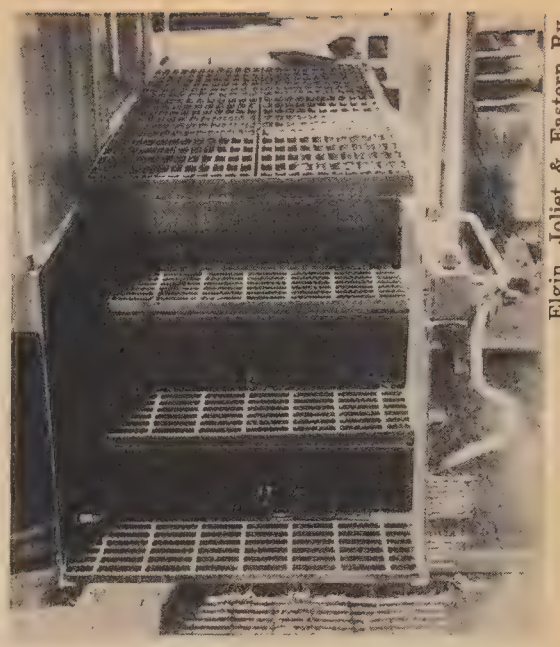
27 *Your June issue pictured a car-top walkway of serrated metal. Why isn't it used on caboose steps?*

Sometimes it is. For example, the Elgin, Joliet & Eastern recently put into service 50 new all-steel cabooses with front and back platforms, as well as steps, built of open gratings, for safety's sake.

28 *What is the scrap value of a steam locomotive?*

The question cannot be answered accurately because of many variables. For instance, the weight "on the hoof" ranges from 50 tons (for a small switcher) to 450 tons (for a big freight engine). The variation in prices depends upon quality, demand, and locality.

The best we can do is to set up an estimate based on averages. Dismantling and cutting up an engine runs about $7 or $8 a ton. The price of heavy melting scrap might run between $45 and $67 a gross ton. On this basis a steam locomotive which yields 200 tons of melting scrap would bring between $9,000 to $10,600. These prices would be $7 or $8 lower per gross ton if the locomotive were purchased intact. But most of them are dismantled and cut up for scrap before being shipped away by the scrap-iron dealers.



Elgin, Joliet & Eastern Ry.

New all-steel cabooses on Elgin, Joliet & Eastern have steps of serrated metal.

29 *Which type of valve gear is used on Union Pacific's 4-8-8-4 single expansion articulated locomotives?*

A Walschaert type valve gear.

30 *How did the St. Louis-San Francisco Railway get its present name, which is certainly a misnomer?*

Promoters of the line hoped to extend it to San Francisco. Although it never got within 1,500 miles of the West Coast, the original name stuck.

31 *What is the world's longest non-stop passenger run?*

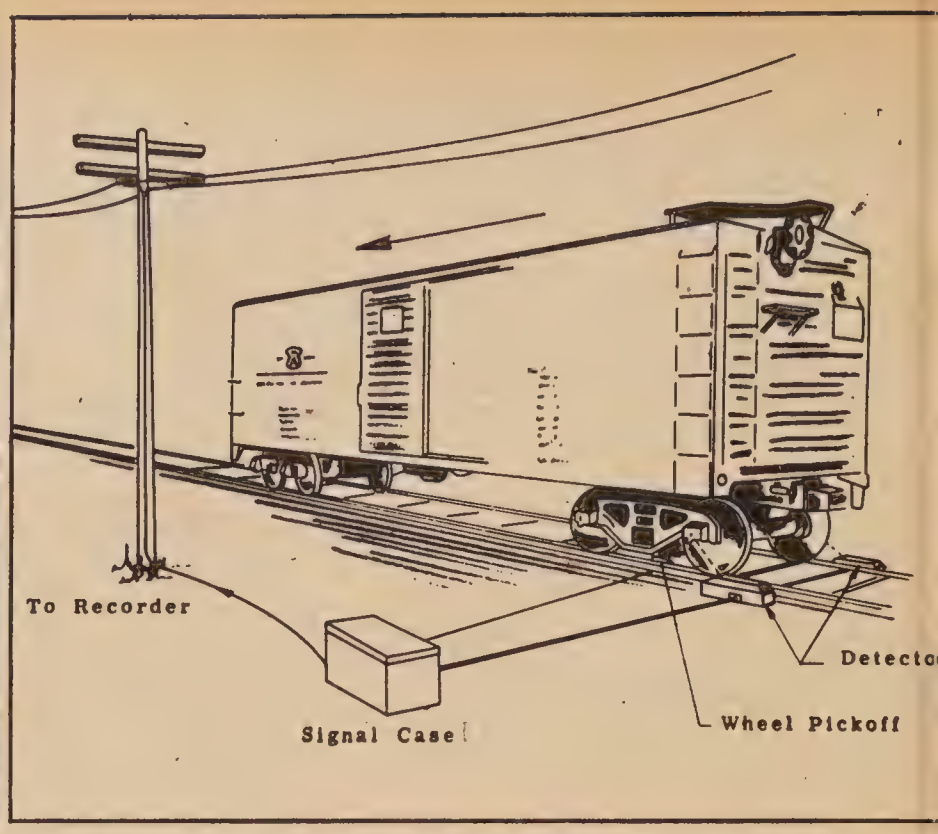
The *Sud Express,* of the French National Railroads, an all-year-round

Burdell Bulgrin

Association of American Railroads' detector car at Owen, Wisconsin, on Soo Line.

Louisville & Nashville Railroad

New 50-ton capacity chipwood cars haul chips from sawmills to pulp plants. Louisville & Nashville owns 50 of them.



Typical installation of Servotherm Hot Box Detective, now used experimentally by Chesapeake & Ohio at Norge, Va.

train. It runs non-stop from Austerlitz Station in Paris to St. Jean Station in Bordeaux, 360 miles, completing the trip in 299 minutes, at the rate of 72.2 mph from start to stop.

Second largest is the steam-operated *Elizabethan,* of the British Railways, which runs during the summer months from King's Cross Station, London, to Waverly Station, Edinburgh, 393 miles, with stopping en route. It takes 390 minutes at an average speed of 60.5 mph, start to stop.

32 *What is a "hotbox detective?"*

A new device for sleuthing one of the oldest railroad villains, the overheated journal box. It is an electronic detector developed by the Servo Corp. of America and now used experimentally by the Chesapeake & Ohio on the eastbound track at Norge, Virginia.

Units are located outside and parallel to rails, with infra-red pyrometer lenses angled up at 45 degrees at the axle journals of moving cars. Equipment records on tape the temperature of every journal passing over the detector. A pen deflection of about four times a normal heat impulse indicates a hotbox. The telegraph operator acts on the warning and stops the train east of Norge.

33 *Is General Motors designing a new diesel called a GP-11?*

No. The latest word from EMD states that such a plan is not on the drawing boards. New models are not brought out at stated intervals. However, when a new model designation on the GP-type locomotive is planned, the next number would be 11.

34 (*a*) *During what period were the greatest number of railway post offices in operation?* (*b*) *How many are left?* (*c*) *Is there a list available?*

(a) From 1900 to 1922, there were close to 3,000. (b) About 375. (c) Yes, a list of RPO's operating as of 1953 is available for 20 cents through Hershel Rankin, 3450 Allen, R.D. 3, Raleigh, Tenn.

35 *Does any country have completely dieselized railroads?*

The only one we know of is Uruguay, where all common-carrier railways are nationalized. Standard gage, 1,861 miles of track.

36 *At the Furnace Creek Museum in Death Valley, Calif., I saw a narrow-gage 0-8-0 bearing the name,* Death Valley Railroad No. 2. *Her nameplate indicates she was built by Baldwin in 1916, serial No. 42864. Can you give me more details?*

She was built for the 3-foot gage Death Valley RR. which extended 20 miles from Death Valley Jct. on the Tonopah & Tidewater RR., to Ryan. The road owned two Baldwin locomotives: No. 1 (builder's number, 41,473), built in 1914, and No. 2, (the one you refer to), which was built in 1916.

The Death Valley RR. was opened in 1914 and abandoned March 15, 1931. In December, 1931, the two locomotives were sold to the U. S. Potash Co., Carlsbad, N. M., where they operated as Nos. 1 and 2.

Last year the company ceased rail operations and donated No. 2 to the Furnace Creek Museum.

No. 3 of the Potash line was presented to the Railway & Locomotive Historical Society of Southern California and is now at Los Angeles County Fair Grounds in Pomona. It is Baldwin No. 21,882, built in 1903, originally Morenci Southern No. 20.

37 *Which railroad was the first to order General Motors SW-900 or SW-1200 switcher with a dynamic brake?*

The Lehigh Valley in Aug., 1951.

38 *How much did the Santa Fe pay in damage claims for the passenger-train wreck on Jan.. 22, 1956, near Los Angeles Union Station, in which thirty persons were killed?*

More than $1,500,000 so far, with some claims still unsettled.

39 (*a*) *When a train, ambulance, fire engine, or U. S. mail truck approaches a crossing, which has the right of way?* (*b*) *What distance from the crossing is the train when the automatic crossing signal flashes its warning?*

(a) There is no Federal law on the

subject, but many communities have ordinances which restrict a train from blocking a crossing over a specified period of time, usually from 7 to 10 minutes. (b) This depends upon the territory or town, and is governed by rules set up by local safety boards.

40 *What is a TTX car?*

A trailer train car, designed and built especially for carrying two highway trailers in piggyback operations.

41 *Define the word spotter.*

A plain-clothes man employed directly by a railroad, or an operative hired from a detective agency, usually for the purpose of spotting conductors who "knock down" fares, but sometimes to check on other activities of employes.

42 *Was there ever an American locomotive painted red?*

Yes, at least one. She pulled the *Redbird,* a Chicago Great Western passenger train, many years ago.

43 (*a*) *How many crossties are used on American railroads?* (*b*) *Are crossties ever made of steel?*

(a) More than a million—enough to encircle the earth with a boardwalk fifty feet wide. (b) Yes. Railroads in northern Australia use steel crossties because the ravages of white ants on wooden ties are so great that steel is required.

Earl Storm, Rail Photo Service, Boston, Mass.

Old landmark goes up in smoke. Water tank on Pennsy at North Madison, Ind. was destroyed in 1940 after fire was built in lower part to keep water from freezing.

44 *What is Germany's fastest train?*

The *Schauinsland,* (diesel-powered passenger train, FT45), which runs between Basel and Frankfort at 60 mph, making five stops en route. Maximum speed is 70 mph. Instead of a locomotive, it has a motor in the front and rear units.

45 *I'd like information as to the gage of railway lines in Brazil?*

Most are meter gage (3 feet 3⅜ inches between rails). The country has a few lines with a 5-foot 3-inch gage; one with two feet; and one with a gage of one foot 11⅝ inches.

46 *How is a power brake operated?*

By compressed air, vacuum, hydraulic, or spring tension.

47 *Give the maximum length, height, or width allowed for a piece of luggage checked by passenger for transportation in a baggage car.*

Seventy-two inches.

48 *When were iron rails first used?*

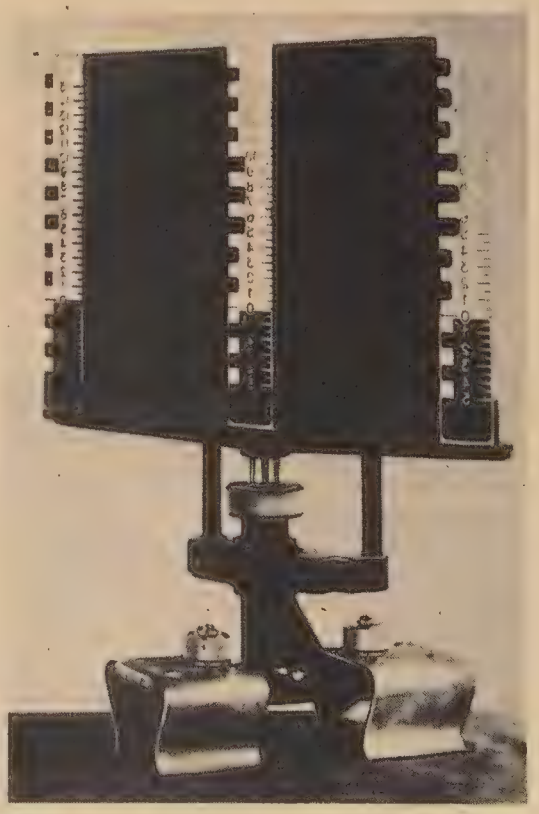
The first were cast by the Colebrookdale Iron Works in England in 1767. Each rail, about 3 feet long, was flanged to keep wagon wheels on the track. Many years later, and on another railroad, the flange was transferred from the rail to the wheel.

49 *Explain the meaning of the term trimmer engine movement?*

Locomotive switching in a freight classification yard.

50 *How does the average capacity of sleeping cars compare with that of railroad passenger coaches?*

The average sleeper accommodates 22, average passenger coach, 72.



Telescope and spotboard, used by section men in trackwork, cut maintenance cost.

51 *What is a spotboard?*

A guide used by section men in surfacing or ballasting track in order to obtain an even roadbed.

The newest version consists of a telescope and spotboard, with accuracy of measurement at 1/64 inch. Both instruments are built by the Belgian Optical & Precision Instrument Corp. and the Belgian National Railways This device with the "measured shoveling" method of trackwork, now in use on Belgian and French systems, is reported to have cut maintenance costs 30 percent.

The telescope has two parts at right angles to facilitate readings. The eyeglass is adjustable to operators' needs and has a cross-shaped reticule. Two level glasses insure perfect vertical and horizontal pivoting.

The spotboard has three vertical graduated scales and fits the railhead by elastic clips. A level-glass permits accurate horizontal aligning of the zero lines of the three scales.

52 *When was American railway traffic at its peak?*

From 1939 to 1944, during World War II. During that period freight increased 146 percent, passenger traffic 336 percent, based on ton-miles and passenger miles of service performed.

53 *How many people are employed by (a) the British Railways and (b) the French National Railroads?*

(a) About 600,000. (b) About 360,000.

54 *Which is the highest point on the Santa Fe Railroad?*

At four points between Chicago and California the Santa Fe Railway climbs above 7,000 feet—7,622 feet at Raton Tunnel, 7,421 feet at Glorieta, and 7,247 feet crossing the Continental Divide east of Gallup, all in New Mexico, and 7,313 feet on the Arizona Divide between Flagstaff and Williams.

CONTRAST in TAXATION:

Washington's Union Station, the only railroad terminal in the country authorized by Congress, was built at the cost of $32½ million invested by individuals and supporting railroads—with not one penny in Government funds. Operation of the Terminal has resulted in profits for investors, which have been reflected in several millions in taxes paid to the Government and the District of Columbia.

RUNNING EXTRA

OUR item on J. N. Blue (June issue) pleases his nephew, Eugene Ward, Box 547, Hermosa Beach, Calif., who says:

"J. N. stands for Joseph Norton, but we called him Nort. My uncle ate, slept, and talked about the trains he loved so well. He was a steam man through and through and would have been unhappy if the Texas & Pacific had been dieselized in his lifetime.

"When he was 12 he built his own steam engine, with the help of some men in the Frisco roundhouse at Newburg, Mo. On the day she was completed, half the town turned out to see her run. They talked about it for years.

"My uncle went to Texas to work for the Missouri Pacific and eventually became T&P's master mechanic at Big Springs. He died in 1937.

"Uncle Nort was the great-grandson of Captain George Donner of the famed Donner-Reed party, most of whom perished while stranded by snow in the High Sierras more than 100 years ago."

COMMENTING on pressure-maintaining brake valve (item 11, April), Harold Beal, 501 Matson Bldg., San Francisco, Calif., points out that the pressure-maintaining brake valve is *not* a dynamic brake.

INFORMATION on Alabama Great Southern No. 300 (June issue) comes from E. L. Griffin, 713 Pyron Lane, Chattanooga, Tenn., a Southern roundhouse foreman.

"This 2-6-8-0 was later No. 6399 and carried under the CNO&TP roster. Built by Baldwin in 1911 (builder's number, 33867), she weighed 363,600 pounds.

"The other two 2-6-8-0's, referred to —Nos. 4002 and 4003 also were built by Baldwin in 1911 (numbered 36031, for No. 4002 and 36032 for No. 4003). Both had smaller fireboxes and weighed 100 pounds less."

A BLUE boxcar, numbered 77648, with initials BM, was seen in Mexicali, Mexico, by George Glazehook, Box 845, San Fernando, Calif. Who can identify the road that owns it?

DAVE HARVEY of Los Angeles wants specifications on the 4-14-4 locomotive which was built in Russia about 1917.

WHO can supply data on the fast run made by John Draney, Lackawanna engineer, from Hoboken to Buffalo in 1901, taking doctors and medical supplies to President McKinley just after he was shot? Paul Laning, 626 Pierce St., Sandusky, O., wants more than the brief account published in Jan., 1930. (Page 32, current issue.)

Pennsylvania Railroad photos

Airport and Rail Terminal

The Washington National Airport cost over $36 million in taxpayers' money, with no interest charge. Installations, and ground they occupy, are tax-exempt. Even so, since the airport opened in 1941, an estimated deficit of about $4 million has accumulated, which is met from funds supplied by taxes paid on incomes, consumer goods, and, ironically, on passenger and freight rates, as well as railroad property.

ADDITIONAL information on automatic stop safety (item 30, June) comes from Thomas O. Acree, Box 724, Hollywood, Calif., a retired Southern train dispatcher.

"The automatic train control used on the Southern is electro-magnetic and consists of an inverted V device mounted on the right front tank truck of *steam* engines and on either truck of *diesels.* Out of yard limits there is another apparatus spiked to the outer edge of the ties on the right-hand side of the track, in either direction, and is only a few inches below the V shaped gadget as the engine passes over it.

"Some pieces are magnetic. The air-brake is magnetically applied if an engineer passes a red signal. However, if a train is climbing a heavy grade and would stall if stopped, the engineer can make the brake inoperative before reaching the signal.

"The device used for warning in event of rock or snow slides is a heavy wire fence placed along the right-of-way. These are electrically connected to relays operating on a closed circuit. In the event of a slide, a red signal flashes to warn trains from either direction. These fences offer no warning or protection if the slide occurs while a train is passing.

"The 'dead-man's pedal' used on diesel motors makes a gradual service stop. The engineer does not have to throw the brake into emergency, but lets a foot rest casually on the pedal. However, if he wants to leave his seat *while the fireman is present,* he can make the pedal inoperative through the use of a valve and take his foot off at any time."

D. ALEXANDER, 5th Engineer, *S. S. Stanvac,* South Africa, c/o Standard Vacuum Trans. Co., Africa House, Kingsway, London WC-2, England, wants to get books dealing with 4-4-0 engines, and railroad song collections, such as the one compiled by the late "Haywire Mac."

"WHERE can I buy a narrow-gage engine and 2 or 3 cars?" asks Hal Lowe, 741 Dayton St., Hamilton, Ohio.

WHO can identify narrow-gage saddle-tanker No. 18? Harry Shannon, 420 Rose Hill Place, Elizabeth, N. J., has her photo, taken at Fort Dix, N. J., in 1918, but the wheel arrangement is not clear. The rails were used to transport personnel to the rifle range. Some of the rolling stock came secondhand from the Philippines and Hawaii.

HERE it comes again. John Richard, Minneapolis, Minn., objects to the fact that your *Information Booth* editor is a woman. "Females," he writes, "should not be in the business, that is strictly for men 100 percent."

This viewpoint was passé long ago. Today, about 5 percent of America's railroad employes are female. Women hold the following jobs, to mention only a few: research librarian, Assoiiation of American Railroads, Washington, D. C.; research librarian, Simmons-Boardman (publishers of *Railway Age,* the *Locomotive Cyclopedia,* etc.), New York; editor, *B&O Magazine,* Baltimore, Md., associate editor of our friendly rival, *Trains,* Milwaukee, Wis.

BRYANT ALDEN LONG, author of the book *Mail By Rail,* 73 Elmwood Rd., Verona, N. J., calls attention to AMERPO, a live society of Railway Post Office fans, which publishes a bi-monthly news sheet, *The High-Railer.* Annual membership costs 70 cents, with A-1 references from Donald M. Steffee, 512 Eighth Ave., Brooklyn, N. Y., the nationally known compiler of passenger-train speed surveys.

SEVERAL readers have furnished additional data on the Queen & Crescent Route (item 20, June issue):

The name applied only to that portion of the Southern System extending from Cincinnati (the Queen City) to New Orleans (the Crescent City). The following Southern System lines were

What is this? (See answer on page 47.)

Harper's New Monthly Magazine, May, 1872

Burlington Route

"Baby and Me." New Slumbercoach facilities for mother and child on the Burlington's *Denver Zephyr* include a comfortable bed, suspended crib, and private lavatory, representing 85 years of progress, as compared to accommodations shown left.

known as the Queen & Crescent: the Cincinnati, Chattanooga, New Orleans of Cincinnati, the New Orleans & Texas Pacific, the Alabama Great Southern, and the New Orleans & Northwestern.

WESLEY STEAD, Box 592, Effingham, Ill., has a picture of a Santa Fe passenger-train wreck which he believes happened shortly after World War I. The engine is No. 1231. The location might be western Kansas or eastern Colorado. Who can identify the wreck?

MORE information about 2-6-8-0 Mallets used by the Southern and the Great Northern(item 51, June) comes from J. William Vigrass, 1494 Cohassett Ave., Cleveland, Ohio. He says the Erie had an engine of this awkward wheel arrangement—No. 1830, class L-1, rebuilt at Meadville shops in 1913 from a 2-8-0 built by Baldwin in 1905.

The rear engine was simply the 2-8-0 and had 20x30-inch high-pressure cylinders. The low-pressure engine (six-coupled) had 35x30-inch cylinders and was supposed to have been new at the Meadville shops.

THE query on the "Chemist Ridge RR. (Aug. issue) is answered by Sy Reich, who says the line referred to actually is the *Chestnut Ridge*, owned by New Jersey Zinc Co. of Penna. It operates 1000-hp Alco-GE switchers.

MANY readers have expressed interest in the golden spike which Leland Stanford pounded into the track at Promentory, Utah.

The spike, shaped from pure California mother lode gold, bears the following inscription: "May God continue the unity of our country as this railroad unites the two great oceans of the world."

It is now owned by Leland Stanford University but housed in a vault at the Wells Fargo Bank & Trust Co. in San Francisco. The tie in which it was embedded was lost in the San Francisco earthquake.

Recently, the Department of the Interior has set aside a seven-acre tract which will be called the Golden Spike National Historical Site.

On each May 10th, several hundred railfans flock to this sagebrush country just north of the Great Salt Lake to celebrate the anniversary of the ceremony of 1869, and re-enact the scene in colorful costumes of the period.

BACK in the 1880's a railroad known as the Pleasantville & Ocean City was operated by the Philadelphia & Atlantic City, a narrow-gage road. Granville Thomas, 218 E. Vine St., Millville, N. J., says it ran from Pleasantville to Somers Point, N. J., to connect with a steamer which took passengers to Ocean City, N. J.

Can anyone furnish details as to whether the P&OC also was narrow-gage, and what motive power was used?

CANADIAN PACIFIC 4-4-0 No. 136, built in 1883, is Canada's oldest active locomotive, as was stated in June *Railroad*. She is also the oldest engine operating today on a Class 1 road in North America. But maybe some reader knows of a more ancient steamer still in use on a short line or industrial pike.

INFORMATION regarding a 2-foot-gage steam engine, now part of an abandoned amusement park near Fife, Wash., is wanted by Carl E. Mulvihill, Box 369, Skagway, Alaska. He has a photograph which indicates that she was built by the H. K. Porter Company, Pittsburgh, Pa., and was known as the Pony Lake Express No. 3. Who knows the year she was built and where she was used prior to operation in the park?

W. Jay Wheeler, 1936 Greenleaf Ave., Chicago, Ill.

Twin pontoon drawbridge on upper Mississippi between Marquette, Iowa, and Prairie du Chieu, Wis., the only one in the world, is owned by the Milwaukee Road.

W. JAY WHEELER, 1936 Greenleaf Ave., Chicago, Ill., sends information on the railroad pontoon bridge that a reader requested in our April issue.

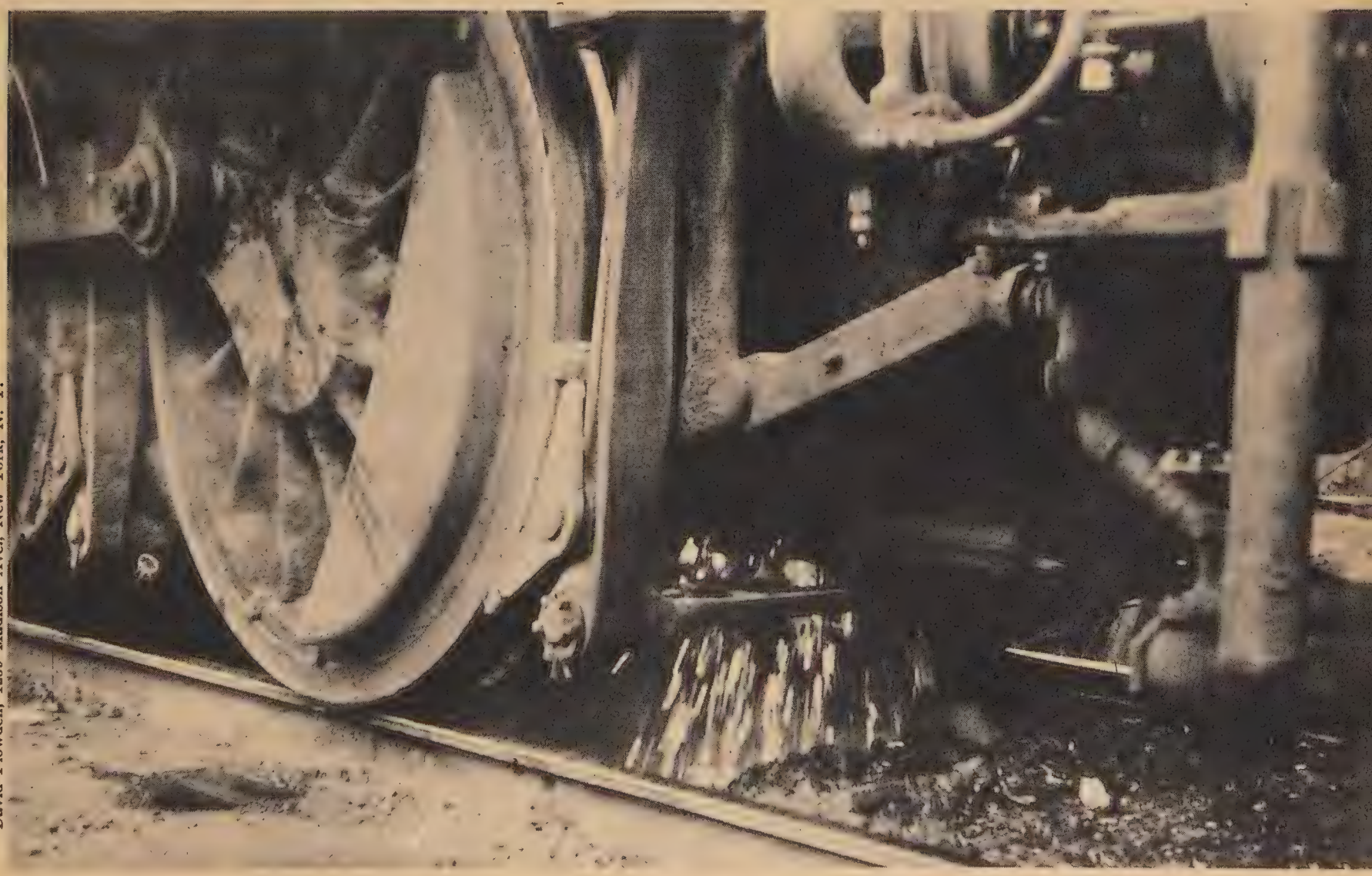
This is the only twin pontoon drawbridge in the world used for railroad traffic. It is situated at the upper Mississippi between Marquette, Iowa, and Prairie du Chien, Wis., at a point where the river has two navigable channels, and is owned by the Milwaukee Road. Its completion in 1874 brought about the first continuous rail connection between St. Paul and Milwaukee.

Most of it is built of wood. The pontoon is a large barge on which the tracks are so arranged that they can be adjusted to any level of the river and can be opened for river traffic. The original power, operated by a stationary steam engine mounted on a free floating barge, was replaced by electronic control equipment in 1954.

The bridge is closed from late November until spring.

PICTURE on page 45 is an emergency rail supply, amounting to 35 miles, stored at the Pueblo, Colorado, material yards of the Denver & Rio Grand Western.

With steam power gone from the entire area, New England never again will offer a photographer the spectacle of a hostler cleaning an engine's fire. The old girl was a Vermont Central 2-8-0 type, No. 470, Class N-5a, on ash pit at Brattleboro, Vt.



David Plowden, 1239 Madison Ave., New York, N. Y.

This time she looked ordinary, a wispy figure in the slanting sunlight, and two of the men were kidding her.

You Can Travel Much Further if You Avoid Entangling Alliances

—That Was Bob Schuyler's Design for Living, That Was the

CODE of the BOOMER

A RAILROAD CLASSIC Copyright 1940 by Popular Publications, Inc.

by HARRY BEDWELL

THE ROCKIES looked good to him. Savage peaks hemmed in the town of Crestline, leaving only gashes at right and left for the trains to run through. Bob Schuyler's keen gray eyes had wearied of endless Iowa cornfields and flat countryside and the Mississippi levees, after five years of booming around the South and Midwest, for the most part with a fellow telegrapher, Ed Sterling, and he was glad to take a job as night operator on his own in a high altitude.

The Colorado air was heady; the bold heights lifted his spirits. Working the second trick, four o'clock to midnight, Bob had a baggageman and a ticket clerk for helpers. He needed them, too, with the mass of details constantly piling up.

Slim and quick, with a thatch of dark hair crowning his rugged profile, he moved like a shadow. The dispatcher had first call on his time. Customers could wait, however impatiently, while you copied a train order, but the dispatcher would not. Now and then a fresh-looking face with a pretty smile would appear at the ticket window, and that was rather disturbing to the young bachelor. He wondered what mountain girls were like when you really got to know them.

The second trick was a brief explosion of events. With train Number 18 impending and the pressure on, Bob was responsible for keeping all the station activities running smoothly. The dusky waiting-room seethed with passengers, tourists, bellboys, and porters. Many of them came from the Western Empire Hotel, built on the rock dome above. They arrived at the station via the incline cable cars that slid up and down on a sixty-degree tram. The

Western Empire's windows, the travel folders stated, gave you "an inspiring view of gigantic, snow-clad peaks spreading away on all sides like the great waves of a frozen sea."

Right now a windy rain was lashing the mountains, and Jimmy Burton's slicker dripped water into a widening pool beside the waiting-room door. Jimmy was the baggage smasher.

"Bob," he said plaintively, "there's 800 pounds of excess on these here boxcar trunks, and don't let 'em tell you different."

The boomer nodded. Just as Jimmy slammed the door Number 18, the all-Pullman *Mountain Limited,* snorted in through the storm and everyone scurried. Hank Monahan, the division superintendent, waited on the platform with his new assistant trainmaster, Roger Hillman, to see that all was well. As 18 rumbled into the night he went to the ticket office for a brief word with Bob Schuyler and a quiet good-night.

Another important train, Number 23, was due shortly and the pressure built up again. After it, too, had gone, the dispatcher engaged Bob for a while. At length midnight brought the third-trick man to relieve him.

The rain had dwindled to a thin drizzle. Cool and soft, it bathed the boomer's face as he left the depot and climbed the abrupt walk. Two windows glowed in the upper story of the station building, where the trick dispatcher controlled traffic on the Crestline Division. Down below, flecked by colored lights and noisy with switching, the yard lay in a flat hollow between the soaring peaks.

Bob's feet thudded on the creaking porch of his boarding-house and he unlocked the front door. Inside, a lone bulb blazed in the parlor just off the hall. Mrs. Gurk, his landlady, was rocking her fat body in a chair, and on the davenport beside her sat Bernice McFee, a stenographer employed in the super's office.

Bernice lived with her father in a shack on the other side of the road. Evidently she had come to Mrs. Gurk's place on very short notice, for she wore a dressing gown which barely covered her trim figure, and her long auburn hair hung in disarray about her shoulders. There was no rouge on her lips. In fact, she never used any.

Both women looked up as Bob entered. The landlady croaked, "Good evenin'," while the girl smiled shyly and pushed back her hair. It was not hard to guess what had happened. The brass pounder knew that pint-sized Johnnie McFee was the town lush and he surmised that this gentleman had just gone on another "lost week-end," driving his daughter out of the house.

Bob observed for the first time that the little stenog, even without hair-do or make-up, really had the kind of allure that men desire. Her eyes were blue and provocative. Her mouth may have been a bit too large but her slow smile, like a sunburst, was unmistakably beautiful. The twin cones burgeoning under her iris-patterned robe could have modeled for an advertisement of bras in *Vanity Fair.* Her arms and unstockinged legs were slender and shapely.

Until now, she had always appeared to Bob as mousy, with her hair bound severely about her head and dressed in a drab shirtwaist and skirt that made her seem—well, dammit, you hardly noticed her at all. But tonight—

Mrs. Gurk blurted out, "Your lunch is ready in the kitchen."

Bob grinned at Miss McFee. "There isn't any house rule to prevent you two ladies from joining me, is there?"

No, there wasn't. A few seconds later he turned up the gas under a pot of Java and offered to share the plate of ham and peanut-butter sandwiches that Mrs. Gurk had left for his midnight snack.

"I'm not hungry," the older woman said, hospitably pouring coffee, but the girl took a sandwich. While they were munching and chatting Bob studied the visitor. He was aware that her father was a section boss who'd get lit up now and then and fight a one-man Irish Rebellion. *She must be ashamed of him,* Bob thought. *Maybe that's why she comes to work dressed like something from an old Sears Roebuck catalog. Too bad! She's a nice kid.*

Suddenly conscious of his scrutiny, the girl flushed and closed the V in the robe that covered her white bosom.

"You look like your dad," Bob said evenly, "around the nose and mouth."

She did not answer. At 12:30 the little party broke up and Bob retired to his room.

THE AFTERNOON SUN blazed like pure gold on the slanting street as the boomer strolled toward the station and his duties. It was still early. Detouring through the tie-yard and passing a switch engine at rest, with a wisp of smoke curling from her stack, he came upon a crew gathered around Roger Hillman and obviously baiting him with veiled politeness.

The boomer knew the score. Young Hillman, tall, blond and heavily built, was the son of the Empire Line's president but had few qualifications for his new job as assistant trainmaster. Crews took advantage of the amateur railroader at every turn.

Bob engaged the young giant in conversation and steered him away from his tormentors. They walked downhill. The clang of construction echoed along mountain walls. The ceaseless and sullen mutter of the Music and Mad rivers mingled with other sounds as the two streams joined in the eternal struggle of wild water around the base of a granite headland.

The two men, boomer and nepotist, stood watching. The main line skirted the north band of Mad River, crept along a bench blasted from the headland, and leaped the canyon on one arch. The spans of a new bridge moved slowly toward each other from the rock walls. Donkey engines puffed on the lengthening web. A wrecking crane swung heavy pieces of material across the savage water to the workmen.

Bob remarked, "All of that con-

struction work runs into big money."

His companion shrugged. "Yes, and it's long overdue. Dad's engineers discovered faults in the headland there—the Pinnacle, where they've blasted out the right-of-way across the face. They found shale and decomposed material behind the apparently solid rock wall, which means that some day the barrier might let go and drop the railroad into the gorge. So we have to bridge the entire juncture of the two rivers."

"But suppose the line falls into the gorge *before* the bridge is finished?" Bob asked.

"That's one possibility we don't like to talk about. Dad had a devil of a task getting an appropriation from the board of directors and he won't rest easy till the new bridge is actually in service."

At the station platform they saw Bernice McFee come out of the stairway door from Mr. Monohan's office and begin stuffing some letters into a mailbox. This time she looked ordinary, a wispy figure in the slanting sunlight. Her long dress had an unnecessarily prim neck-line, and a couple of men were kidding her. Bob joined the group.

"Hi, neighbor!" he greeted. "How about you and me going to the Bijou tomorrow night? It's my day off and they have a new Clark Gable picture."

"Yes, I know," she said, "but I can't make it. Thanks just the same."

"Why can't you make it?"

"That's my business, Mr. Schuyler."

"I guess you're right. Suppose we take a rain check till next Tuesday night?"

She did not answer, and Bob entered the depot. From that moment on till midnight, with brief interruptions, waves of detail submerged him. They washed over him into thin air. At length he welcomed the third-trick operator again and walked out under the stars.

The next day he went fishing in a quiet spot four miles up the Mad River. Hours passed before a lone speckled trout nibbled on his bait. He landed the trout, broiled it, and ate it with the lunch he had brought along. Then he sprawled out on the soft grass. The sun was warm. He rolled over into the shade and fell asleep.

A full moon silvered the river and woods. He woke up. It was a mild, sweet-smelling night and he strolled back along a river path to the boarding-house.

ENTERING the front door he saw that the plump Mrs. Gurk had waited up for him. She led the way into the kitchen and said, "Sit down." Bob sat down and began eating a corned-beef salad. His landlady poured two cups of black coffee, eased herself into a chair, and remarked:

"'Tis a hard world for women!"

"Oh, I don't know," Bob said lightly. "Insurance figures show that the average woman lives about five years longer than the average man. Besides, women own more than half of the country's wealth."

"It may be true, Mr. Schuyler, but I'm thinkin' of Bernice McFee, as sweet an Irish colleen as you'd ever want to meet. She moved into my house this evenin'. Couldn't stand livin' with her father any longer." Mrs. Gurk sighed. "No wonder the poor girl is lonely."

"That's tough," said Bob. "Why doesn't she step out once in a while? She's not married to her old man."

Mrs. Gurk pursed her lips. "I hope not! But you must know that she stepped out this very night."

"Well, what happened?"

The landlady drained her cup of coffee. "Bernice went out with Roger Hillman, I don't know where, and when they came back she was cryin'. She says nobody can stand her, because of her father."

She doesn't go in for necking, Bob decided, *and she doesn't like Roger's filthy paws.*

Aloud he said: "If she'd wear some pretty clothes and get her hair cut short as smart modern girls do in big cities, instead of looking like Louisa May Alcott, she'd have a stag line half a block long."

Mrs. Gurk regarded him shrewdly. "That is what I was thinkin', Mr. Schuyler, and why don't you tell her so?"

"Me?" said the boomer in a panic. "How about *you* telling her? You're a woman."

"Young man, a girl will listen to a man about such things more readily than she will to another woman. A kind word from you would go a long way," the landlady wheedled. "Go up to her room right now!"

"Now, at eleven o'clock at night?"

"Yes, now. I'm sure she hasn't gone to bed yet. Of course, you could leave the door open," Mrs. Gurk added discreetly.

"Of course."

Bob ascended the steps with trepidation. Just before he rapped on the door he heard a subdued sniffling. Then a voice called out, "Who is it?"

"It's Bob Schuyler. Mrs. Gurk sent me, but I'll run along if you'd rather not talk."

There was silence in the room, then a step or two, and the door opened. "What is it, Mr. Schuyler?"

"Look, Mrs. Gurk thought I should do something about God knows what, but this isn't the time of night to—"

"Yes, it is," she said demurely. "Please come in and sit down."

An awkward silence followed.

"Well," Bob groped for words, "I understand you went out with Roger Hillman tonight and he wasn't very nice to you. I'd be glad to break him in two, but that wouldn't get either of us any place except fired. He's just a guy to stay away from, that's all."

"It really isn't his fault, the way he treats me. He's the president's son and I am just—" she hesitated.

Bob's eyes glinted. "Just what?"

"An old section boss's daughter."

"There is nothing wrong with being a section boss's daughter unless you undersell yourself," Bob said firmly. "Everyone writes his own price tag. You are what you want to be. You can make yourself so tall that guys like Roger Hillman would have to climb a ladder to reach you."

Bernice drew herself erect. Then she let loose a torrent of problems and frustrations, like the sudden col-

lapse of a log jam. They talked far into the night. Mrs. Gurk listened outside the door for a while to find out whether or not the railroad man would say "a kind word" and get away with it. Then she tiptoed down the hall to her own room.

"I don't want to be tied down any longer by—my father," Bernice said earnestly. "If you were in my place, Mr. Schuyler, what would you do?"

"Well," he reflected, "if I were a girl I'd get a modern short haircut and I'd buy myself some new clothes, real smart-looking, even if I had to go into debt and eat beans for a month."

"New clothes?"

"Yes, indeed! And not the kind the Pilgrim dames wore on the *Mayflower.*" He took the bull by the horns. "Get some form-fitting dresses with low neck-lines, and a tight sweater, and stop trying to hide the beautiful shape God gave you!"

Bernice gasped and turned scarlet.

"I mean it," he said. "Wake up and live!"

She laughed wildly.

"I will, Bob. I surely will!" It was the first time she had called him *Bob.* "Thanks a lot," she went on.

Bob grinned approvingly. If she had been any other girl he would have kissed her. But the boomer code made him wary. He sensed that Bernice was different. She'd probably regard a kiss as a pledge of marriage, and that wasn't what he wanted. You must avoid entangling alliances. Love 'em and leave 'em. The words "footloose and fancy-free" drummed through his head. You can't travel on the boomer trail unless you travel light.

He was not looking for a wife. But that laugh had almost thrown him off guard. Mustn't let it happen again.

About two o'clock he went to bed. After tossing for hours, he finally dismissed her from his mind by concentrating on his boomer pal, Ed Sterling, and the good times they'd had together. One of these days he'd look Ed up and get back into circulation. At last he fell asleep and dreamed of working a night wire in a little town along the Mississippi—far, far away from Bernice McFee.

IT WAS HIGH NOON when Bob Schuyler awoke and began marshalling his thoughts in a vain effort to determine just how far, if at all, he had involved himself with Monohan's stenog. He showered, shaved, ate breakfast, and walked leisurely downhill to the station without finding the answer.

Bernice was not in sight. The day operator checked his train orders with Bob and wandered out. The ticket clerk balanced his report, turned the stock over to the night man and his cash to the agent, and departed. The agent banged out a few letters on the old Remington. Then he closed his ancient roll-top desk with a bang and left for the freight house.

Thus the night's work began at Crestline station in the Rockies. Bob had lost some of his buoyancy. He felt slightly bemused. He had ignored his best judgment and now it appeared that he was caught up in events beyond his control.

A glorified Bernice came down the stairs on her way home. The king snipe's brat had suddenly blossomed into something new and very feminine. Her auburn hair was cut short. Her ready smile was bewildering and she seemed to be walking on air.

Bob greeted her from the telegraph table as she got the Wells Fargo paste pot and began sticking the bulletins to the blank sheets of the book. Roger Hillman, with the look of an African hunter who has just seen big game on the next hill, trailed her into the ticket office. Bob heard him saying:

"Listen, Red, there's a big dance at High Grove tonight. What do you say? I'll pick you up and we'll drive out."

Bernice shook her head. "No, thanks, Mr. Hillman. I have work to do at home. Besides, Mr. Monohan asked you to ride the manifest tonight as far as Euston and find out why there is always a delay at the packing-house."

"Aw, that?" said the assistant train-

A. B. Aretz

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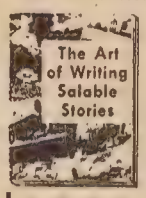

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master. "It's not important. I could skip it and ride the hotshot tomorrow night."

"But that isn't what he wants."

Roger scowled. "I'll walk you home and we'll talk it over. There's a nice crowd at High Grove."

"No," she said. "You have only enough time to grab a bite to eat before the fast freight leaves. I must be going. Good-bye, everybody!"

She waved like a beauty queen to a crowd of fans.

Bob considered his shot and let it fly. "Don't forget, Bernice, you and I are stepping out Tuesday night!"

"I won't," she smiled. "Be ready at eight."

She shut the door behind her.

"To hell with that manifest!" said Roger, glowering at Bob. "So you're trying to cut in on my time? She's my girl."

"I won't believe that till she tells me so," the boomer challenged.

Roger glared. "That gal—" he began. And then he hesitated as Bob slid off the telegraph table. He didn't quite understand why this roving operator could restrain him by just standing up.

Bob was examining him with a cool distant glint of hard gray that Roger found hard to face. The big chief's son had a sullen feeling of something disdainful in that look.

The telegraph instruments chattered in sudden excitement, and a murmur of voices eddied in from the waiting room. Bob waited.

Roger studied him with icy blue eyes. "You'll talk out of turn some dav," he warned, "and be sorry for a long time. I could give you twenty pounds and still take you apart."

Bob shook his head. "You couldn't do it even at the present weights. Just remember that, if you ever want to try."

The blond giant stalked out. Bob turned back to his work and tried to ignore the signs that trouble was brewing. He liked his contacts to be pleasant and so arranged that he could move on to some place else at any time without prejudice. You lived longer that way. It was inherent in his boomer code. But now it seemed that other people's destinies would tie him to Crestline for a time, whether he liked it or not.

HERETOFORE, Bob had never asked for time off. Usually he was filling in for others. So it created a stir around the office when he now made occasional requests for a few hours off in the evening and once or twice that he be relieved for his entire trick. Lively comments were aroused, and some consternation, when the boys learned that he was squiring Bernice on his time off.

"It must be love," the agent remarked. "And look how it's made Bernice bloom! It took a boomer from every place but here to show us what a swell dame she is."

Bob noted with grim glee that his interest in Bernice intensified Roger's regard for her. The president's son trailed her into the ticket office one evening and listened glumly while the two planned a Sunday picnic up beside the Mad River's horseshoe bend.

"That guy," Roger warned Bernice, "is just a boomer brass pounder. He'll move out on you one day. Just drift away. No sense of responsibility."

"I wouldn't say that you are very responsible, either," she answered sweetly. "When Mr. Monohan asked you to check the service on the Echo Branch today, you got absorbed in operating the crane out there at the bridge, and missed your train."

"Well," said Roger, "it's more fun running the big hook, and I can do it better than check the service."

"Of course," she smiled. "It's always easier to do the other fellow's job."

"Aw, Monahan just ordered me to the Echo Branch to get me out of his sight. He didn't want me hanging around your desk."

Came Sunday morning, the date of a picnic Bob had planned with Bernice. The telegrapher borrowed an old hand-operated velocipede from a section crew and pumped slowly along the Mad River, which brawled in cascades through its granite channel. It was superb and rugged scenery. Now and then they paused to view the white water through a frame of pines or birches.

After a while Bob remarked, in the immortal words of Brigham Young, "This is the place." They stopped beside a shadowy dell. He wheeled the vehicle from the rails and parked it in the clear. Leaving their food hamper in the shade, they explored the picturesque woodland, and when they returned they were ravenously hungry. Not a sound could be heard except bird calls and the rustling boughs and the rushing water down below.

"It's quiet and peaceful here," Bernice sighed, preparing lunch.

At that moment the sputter of a laboring gas-engine split the rustic silence. Bob groaned. A moment later the roadmaster's gas-car nosed into view, with Roger Hillman operating it. The motor chugged to a stop and Roger lifted it off the rails. He grimaced at the girl as though unsure of his welcome.

"Surprise!" he said. "It's swell to meet you folks here. I had planned a picnic myself in this very glen. Hope I don't intrude."

"Did you bring your own lunch?" Bernice asked distantly.

"Oh, plenty," he said, lugging forward a big basket, "and I want to share it with you."

Bob held his tongue. What he wanted to say wouldn't have sounded well in front of a lady. But he managed to be polite, and the three railroaders laid a variety of foods on two tablecloths spread out on the grass, and delved into them.

A DRAG FREIGHT clanked down the grade, and then a passenger train toiled up and blasted by. Bob Schuyler, relaxing in the sun, wasn't quite sure whether or not the girl was glad that Roger had intruded.

Bernice is smart, he thought. *Now that she has built up her self-confidence, maybe she could make a human being out of Roger.*

After a while the sun began to slant and he stood up. "I must get going," he announced, "back to work. You two can stay here if you want to and come down later behind 31."

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A strange man in Los Angeles known as "The Voice of Two Worlds," is offering, free of charge to the public, an astounding 64-page booket analyzing famous world prophecies covering these times. Written in 1951, it successfully predicted that the next great world crisis would be at the Suez Canal. It shows that four of the greatest prophecies could not come true until the present time. But now they can, and the years that change the world are at hand. Great dangers but still greater opportunities, confront forward looking people in 1957.

"The Voice of Two Worlds," a well known explorer and geographer, tells of a remarkable system that often leads to almost unbelievable improvement in power of mind, achievement of brilliant business and professional success and new happiness. Others tell of increased bodily strength, magnetic personality, courage and poise.

These strange methods were found in far-off and mysterious Tibet, often called the land of miracles by the few travelers permitted to visit it. He discloses how he learned rare wisdom and long hidden practices, closely guarded for three thousand years by the sages, which enabled many to perform amazing feats. He maintains that these immense powers are latent in all of us, and that methods for using them are now simplified so that they can be used by almost any person with ordinary intelligence.

The 64-page booklet he is now offering free to the public gives guidance for those who wish to prepare themselves for the momentous days ahead. It gives details of what to expect, and when. Its title is "Beware of These days!"

The book formerly sold for a dollar, but as long as the present supply lasts, it is offered free to readers of this notice.

For your free copy of the astonishing prophecies covering these momentous times, as revealed in this 64-page book, address the institute of Mental-physics, 213 South Hobart Blvd., Dept. 138-E, Los Angeles 4, Calif. Send no money. Just your name and address on a postcard or in an envelope will do. No obligation. Readers are urged to write promptly, as only a limited number of the free books have been printed.

Roger agreed, but Bernice vetoed the idea. "I'll go home with the fellow who brought me here," she said, smiling at them both.

The assistant T.M. took defeat good-naturedly. He wheeled the gas-car back on the rails to precede the velocipede down the grade. The motor grunted and balked. He swore at it. He tinkered with the engine. The motor exploded with strangled fury—and the car leaped out from under him!

Before the stubby, churning wheels lay a swooping twist of the grade. You couldn't tell what would happen if the gas-car hit train Number 40. Pictures of the sudden hazard flickered like a mirage. Bob stooped and snatched up the broken half of a discarded tie that lay at his feet.

In the next split second the wavering pictures focused clearly. Roger stood back and yelled. Bernice waited tensely.

The right front wheel of the roadmaster's car chewed into the broken tie and the runaway vehicle tipped over into the roadbed, kicking up ballast. Bob shut off the motor. The beast surrendered almost before it started on its rampage..

Roger was scared. The consciousness that he had failed in the face of abrupt danger seemed to unnerve him. But life goes on, and so does railroading. The Empire Line continued to push its construction project. The spans of its new bridge crept out over the river from the opposite walls of the gorge. The two ends drew closer together and finally met in a spidery falsework. Excitement prevailed over the prospect that a great example of construction engineering would soon be in service.

Bob Schuyler sensed an explosive air in the dispatcher's office that afternoon when he went there for a session with the trick man. The chief barked at him genially. Operators sat on edges of their chairs as they worked at the telegraph instruments. President Hillman had declared that the opening of the new bridge would be properly celebrated.

Touring down the hall on his way below stairs, Bob thrust his head in at the door of the superintendent's outer office for a brief word with Bernice. The little stenog sat at her typewriter between stacks of papers. She arrested her busy fingers for a smile and nod.

Roger sat slouched in a chair near her desk, glowering at a carbon copy of the telegram by which his father announced plans for opening the new bridge, and peered at Bob over the yellow sheet.

"Come in," he said, "and listen to this."

He read the message. Sam Hillman had, indeed, ordered a celebration that would make history: first a banquet at the Western Empire Hotel simultaneous with a dance in the grand ballroom and on the following day the bridge would be opened with a gala ceremony.

ROGER tossed the telegram on Bernice's desk. "This is going to be something," he said. "Bernice McFee, I am dating you up right now for both the banquet and the dance."

He knew that Bob wouldn't be invited to the dinner and that Bernice's only chance to attend it would be with him as her sponsor.

What girl wouldn't like to go to a banquet? Nevertheless, when the great day came, the section boss's daughter passed up the big spread in order to attend the dance with Bob.

The mighty and the meek converged on Crestline that day. Officers of the Empire Line and their allies came in private railroad cars, which were switched out and set on the parking siding below the hotel. Special trains carried the railroad employes and the public.

President Hillman's own special brought him, his board of directors, his bankers, and the governor of the state. The chief engineer led the inspection party. A crowd had gathered. Sam Hillman descended from his business car to greet old employes and the townfolk he knew.

Bob Schuyler, in the bay window at his telegraph instruments, studied

the big chief. Like his son, Mr. Hillman was brawny. Even now, with his hair decidedly gray, his shoulders bulged more than his waist line.

Six o'clock came. The throng about the station increased, and the incline tramway was jammed with well-dressed ladies and gentlemen ascending to the hotel. One of the older men in the dispatcher's office was to relieve Bob that night, and at 7:30 when the boomer was cleaning up loose ends he was called to the wire.

"Is that you, Bob?" the sounder clicked, and he answered it rapidly.

"Hi, Bob," the sounder rippled. "This is Ed Sterling. I'm down in Memphis."

Ed Sterling, his long-time pal! Bob felt a wild restless surge of wanderlust. His mind flashed back along the careless road to the spots where he and Ed had foregathered. He could hear the Southern drawl and see the impish glint in Ed's eyes as his friend plotted some devilment. The boomer code, he decided, answered the riddle of the sphinx.

"I hope they've got you in jail at last," Bob sent joyously. "Tied down long enough for your laundry to catch up with you."

So Ed was in Memphis? A breath of the old river and the smell of the wharfs slipped through to him on the wire from that distant sunny spot.

"Not yet, they haven't," Ed sent. "Still two jumps ahead of the sheriff. And if you want that fifty bucks I owe you, come down and get it. I'm sitting pretty here and I could land you a soft spot. Better leave those damned high mountains and take it easy."

Bob shut his eyes. Pictures drifted behind the closed lids. The roll of the Mississippi under a yellow moon and Negro spirituals drifting on the soft air. Folks down there meandering from yesterday to tomorrow without trying to crowd time.

The boomer at Crestline clicked thoughtfully: "Dammit, mebby I will."

He stared at the sounder. Ed's cheerful send from out of space was like a magic summons. There was nothing to stop him from casting loose and drifting down there for a stretch of sun and hilarity, was there?

AT LENGTH the operator from the dispatcher's office came in to relieve him. Bob climbed the street glumly to his boarding-house. There Bernice was waiting for him.

Never before had she been more alluring. A filmy white bouffant dress surrounded her like a cloud. The corsage of orchids nestled on her well-developed bust exhaled a rare exotic perfume. Her blue eyes were shining and an eager smile wreathed her lips.

Arm in arm, they opened the front door and walked across the creaking wooden porch. A smell of honeysuckle filled the air. The dim lights of town dipped below them and swept up on the opposite walls in twinkling tiers. The crowd at the loading platform of the cable cars had thinned. Most of them had gone to the grand ballroom or had scattered on the broad terrace.

Spreading chandeliers glowed from the high ceiling. An orchestra was playing *The Blue Danube*. Bob and Bernice slipped into the waltz. Both had easy grace. They drifted together in a glowing mist.

But he was listening inwardly to the ripple of the muddy Mississippi among the wharf piling at Memphis. It came through the slow music like a whispered call. His feet were restless for the open road again.

Later, on the terrace, he caught sight of Roger's heavy shoulders edging truculently through the crowd. Bob stopped leaning on the low stone parapet and stood erect. Obviously, the blond giant had been drinking too much. He was using football technique to wedge his way through the guests and he lurched directly to Bernice.

"I couldn't stand that boiler shop another damn minute," he said as he arrived. "'Come on, kid! We'll have a drink and then we'll dance."

"Sorry, Roger," she said, "I've already promised the next dance."

Roger gave a maudlin smile. "Whoever he is, he'll excuse you if I ask him. I haven't had any fun all evening. Come on, honey!"

"But I don't want to be excused."

"Aw, come on!" He seized her arm roughly.

In that instant Bob felt something let go in back of his mind and his own voice sounded muffled to him. "Roger, you'd better stick around out here a while and take the air."

THE PRESIDENT'S SON glared at Bob and pulled at the girl.

"Roger!" she protested, and then a cool voice said, "Let go of Miss McFee!"

Roger spun. He was looking into the boomer's steel-gray eyes, their faces close together and his breath reeking of alcoholic fumes.

"Johnson," Bob spoke to the first-trick dispatcher, "please take Miss McFee to the ballroom."

The girl took a step toward him.

"Please, Bernice," Bob coaxed.

She turned slowly, took the trick man's arm, and Bob relaxed.

"Let's get a drink, Roger," he said. "I really need it."

Roger's cheeks paled. "I warned you once. You're butting into my affairs again, and for what? A shanty-Irish doll."

The only answer to that was a pile-driver blow in the jaw. Roger reeled and fell. He squirmed on the terrace, clutching the air with big hands.

Bob looked around in a daze. At length the world drifted back to him in a blur of faces and the distant drum of voices. Someone burly and authoritative stood beside him. A command, curt and intense, cut through the babble:

"Stand up, Roger!"

Bob shook his head to clear it. He looked at the burly fellow. Sam Hillman, president of the Empire Line, was appraising the prostrate form of his son.

"On your feet!" he ordered.

The blond giant stood up, sheepishly wiping the blood off his chin.

"I saw and heard what happened," said the elder Mr. Hillman. "It serves you right, son, for trying to use a position you never earned."

Bob hooked an arm through Roger's. "Come on, fella," he urged. "Let's get that drink now."

Roger looked at him soberly. "Damn!" he said. "You're quite a bunch of dynamite!"

The boomer tugged at his arm and they walked through the crowd.

"Don't think this ends it," Roger warned. "We'll try again some time."

"Any time," Bob nodded.

After a brief silence the assistant T.M. said: "My old man never spoke to me that way before. He was always too busy to notice me."

"Maybe you two ought to get together. It's high time."

Anger died down on both sides as they walked out together onto the terrace. The colored lights of the railroad yards, like a far-flung Christmas tree, twinkled below. A switch engine blasted to a sudden still throttle. Back of them, on the terrace, a figure in white was coming through the dim light and shadows. Turning, they recognized Bernice.

"Bob," she called, "you promised me the next dance."

She took his arm, and Bob excused himself as they moved away.

"Before you go, Bernice," the blond giant said meekly, "I want to apologize for acting like a heel."

"I've forgotten about it already," she answered. "People do things when they're drunk that they don't really mean."

Roger slid down off the low stone parapet. "I guess I'd better go talk with Dad and fix things up."

IT WAS PAST one o'clock of a balmy summer's night when the strains of *Home, Sweet Home* swept through the ballroom and melted over the granite heights. Bob and Bernice glided to the music. He was trying to focus on the muddy roll of the ageless Mississippi and to feel the lazy Southern sun. But the perfume on a white-clad bosom sidetracked his thoughts.

Besides, he'd been to Memphis before. It wouldn't strike him now with the same keen interest. Backtracking could be as dreary as going no place at all.

Some time after the music had died away, Roger approached Bob and touched him on the shoulder.

"Excuse me for butting in, but Dad would like to see you in the manager's office."

The tone was friendly, and Bob sensed that old Mr. Hillman would offer him a promotion. But he felt Bernice's hand on his arm as he stared at the heavy figure of the president's son. Some people had wrong notions of the real things in life.

"Thanks a lot, Roger," he said, "but I'll see him tomorrow morning. I'm engaged for the rest of the evening. Now get lost!"

Roger grinned and moved off. They wandered quietly into the darkness, pausing at the stone parapet. A tram loaded with gay folk moved down the incline and the empty car crept up from dim depths below. The searching scent of mountain growth and cascading water billowed on the thin night air. The smell of engine smoke and hot cinders came up pungently from the Crestline yards.

Together they watched a passenger train drop out of the canyon beyond Mad River. It slashed along the shelf under the Pinnacle and drummed over the short trestle. Its headlight probed the darkness like a gleaming blade. A restive freight, awaiting its arrival, stormed away to the west.

Thus it is wherever you go, the brass pounder mused. *Things smell different maybe, but they work about the same in Memphis or Medicine Hat.* The code of the boomer that he had followed all these years was not so important after all.

A slender warm hand slipped into his and Bob Schuyler held it firmly, possessively. Tomorrow he would see President Hillman. ●

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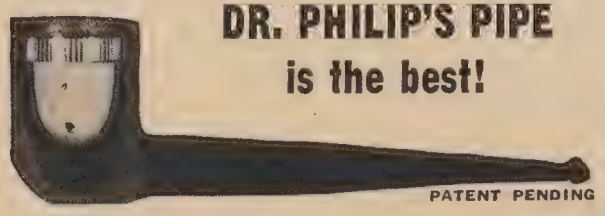

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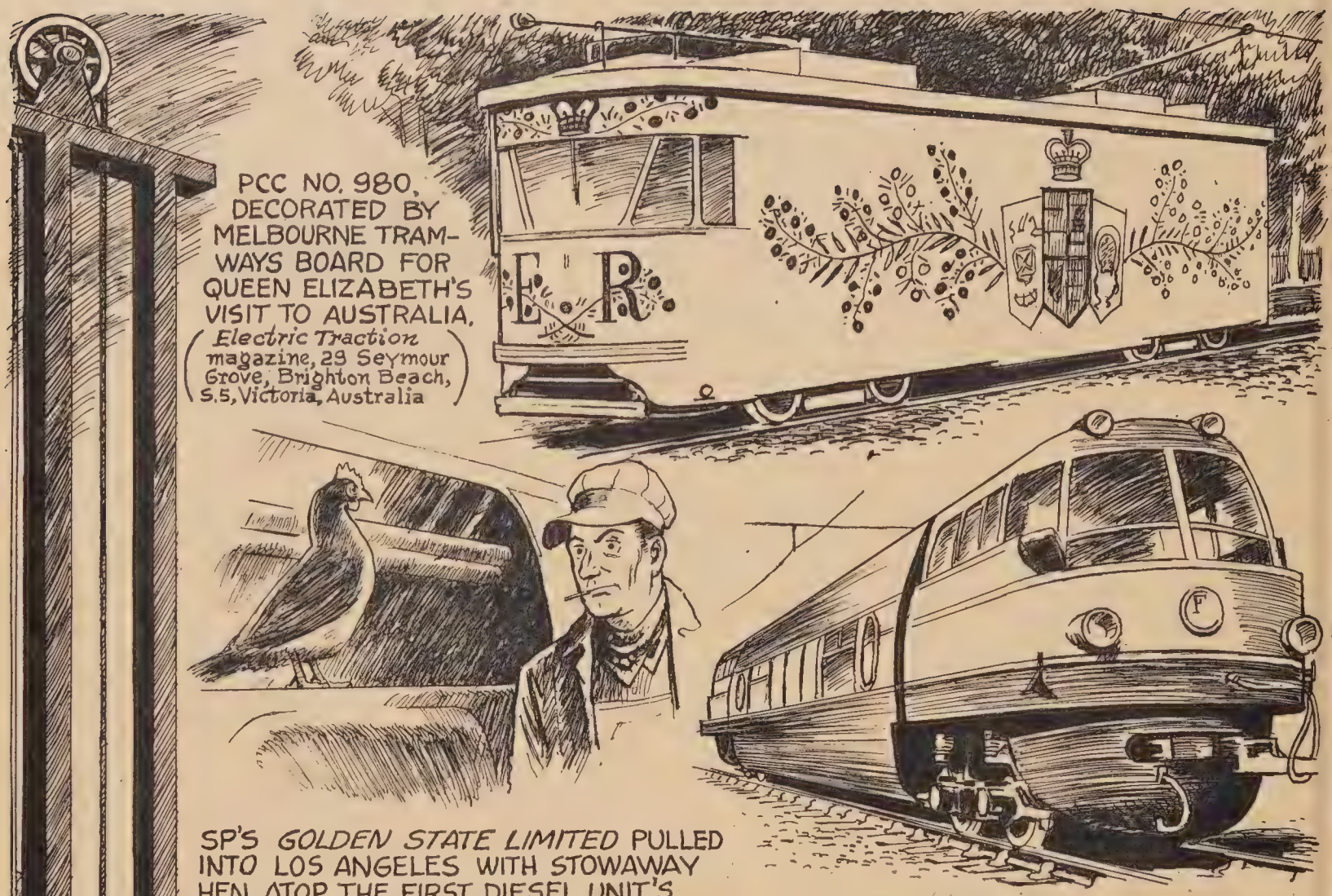
Along the Iron Pike

by Joe Easley



PCC NO. 980, DECORATED BY MELBOURNE TRAMWAYS BOARD FOR QUEEN ELIZABETH'S VISIT TO AUSTRALIA. (*Electric Traction* magazine, 29 Seymour Grove, Brighton Beach, S.5, Victoria, Australia)

SP'S *GOLDEN STATE LIMITED* PULLED INTO LOS ANGELES WITH STOWAWAY HEN ATOP THE FIRST DIESEL UNIT'S TRACTION MOTOR. WHENCE DID SHE COME? TRAIN MADE 10 STOPS IN 800-MILE TRIP FROM TUCUMARI, N.M.

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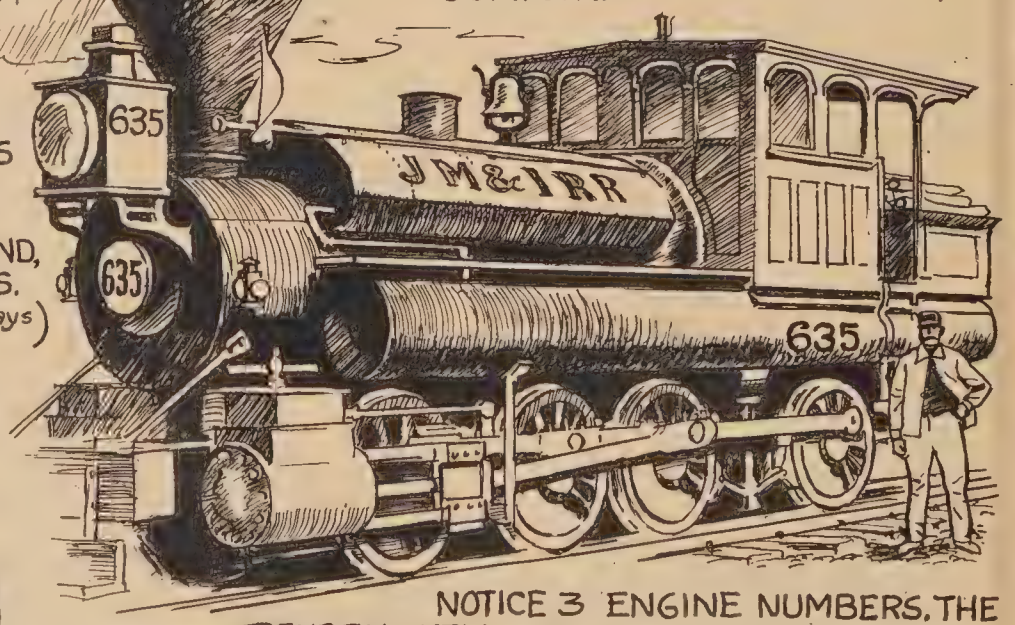
NOT A GUILLOTINE BUT OPERATING ON A SIMILAR PRINCIPLE, THIS THING TESTED RAILS UNTIL 30-ODD YEARS AGO AT DERBY, ENGLAND, WHERE IT STILL STANDS. (*British Railways* magazine)



NOTICE 3 ENGINE NUMBERS. THE *REUBEN WELLS* OF OLD JEFFERSONVILLE, MADISON & INDIANAPOLIS (PRR), NOW STORED AT NORTHUMBERLAND, PA.; DRAWN FROM PHOTO MADE ABOUT 1890. (Collection of Earl C. Storm, Rail Photo Service Staff, Madison, Ind.)

He's Gone to the Big Rock Candy Mountain

HAYWIRE MAC has reached the end of the boomer trail. Stricken with heart disease, Harry Kirby McClintock, who was a legend even in his lifetime, cashed in his chips a few weeks ago at a San Francisco hospital.

He was born at Knoxville, Tenn., the son of a railroad cabinetmaker and nephew of four boomer trainmen. His drifting began when he ran away from home as a boy to join a circus. He railroaded in Africa, worked as a seaman, saw action in the Philippines as a civilian mule-train packer, supplying American troops with food and ammunition, and in 1899 found himself in China as an aide to newsmen covering the Boxer Rebellion.

Back in the States, he hired out to the Pennsy in the Pittsburgh area, and from there he took the boomer trail as a railroader and a minstrel. Mac lived an adventurous life and never lost his sense of humor.

"I am glad I was a wandering shack and switchman," he told us. "Glad for the old free days I used to know. Glad for the bag of tricks that made the world exciting—the phoney service letters, the sight of shining rails from a caboose door, and the brass rings I grabbed at and missed but sometimes caught.

"Working on more railroads than I can remember was a real adventure. I also herded sheep in Nevada, punched cattle in Montana, and got married." He is survived by his widow, a daughter, and three grandchildren.

Mac had a good singing voice. In between jobs he would sing and play a guitar in saloons, hash-houses, dance halls, and aboard ship. He wrote two ballads, *Hallelujah, I'm a Bum!* and *Big Rock Candy Mountain*. We think the latter will be remembered and loved as long as there is an English language.

One evening as the sun went down
And the jungle fire was burning,
Down the track came a hobo hiking
And he said, "Boys, I'm not turning;
I'm headed for a land that's far away,
Beside a crystal fountain.
So come with me; we'll go and see
The Big Rock Candy Mountain."

Haywire Mac was a wanderer. "You don't always feel like sweating your guts out for your meat, potatoes, and beer," he said. "A glimpse of freedom is good for the soul. If you have never told a brass collar to go to hell and stick his job up a rain-spout or some other place, you haven't really lived.

"But you can't do that today. The cards are stacked. The old boomer era is dead. Gone with the wind."

Mac also won success in radio, with his own cowboy band, and he made a few vocal records which you can buy at any large music shop. He filled scrapbooks with thousands of letters he got from listeners. One endearing trait of his was finding homes for stray dogs.

In 1938 he began writing for *Railroad Magazine*, which has since published 35 of his manuscripts—true tales, fiction, one poem. His last contribution, "Boomers and Their Eomen," will be featured in our next issue. It is very frank and partly autobiographical.

He summed up his philosophy thus: "Me, I don't believe in being frustrated. Drain your glass to the bottom, I say. Better do that than decide later on, too late, that life has passed you by . . . I am getting along in years now but I have no regrets. When the time comes for me to say good-bye to it all I will quit the game as a winner.

"Life put on quite a show for me. But now the show is ending, the lights are growing dim. Out in my back yard at San Francisco, somewhere between the crimson ramblers and the hollyhocks, there waits an Old Man With a Scythe. Some day ere long he is going to tap my shoulder and say, 'Come with me, Mac!', and when he does I will follow him into the everlasting shadows, leaving behind me all the bright golden memories."

Oh, I'm bound to go
Where there ain't no snow,
Where the rain don't fall
And the wind don't blow—
In the Big Rock Candy Mountain. ●

Harry K. McClintock (1882-1957)

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Climbing a steep grade near Austen, W. Va., three B&O articulated giants wheel a string of 65 cars around reverse curves. Photo (dated 1949) shows No. 7616, a 2-8-8-4, on the head end. The other two, 7109 and 7205, were pushing at the rear.

KEY TO NEW DIESEL NUMBER SERIES

Type of Unit	Series	Class	Builder
Passenger Road "A" Unit	1400	PE	E.M.D.
Passenger Road "B" Unit	2400		
Passenger Road Switcher	3400	PSE	E.M.D.
Freight Road "A" Unit	4000	FA	ALCO
	4200	FB	B-L-H
	4400, 4500, 4600	FE	E.M.D.
Freight Road "B" Unit	5000	FA	ALCO
	5200	FB	B-L-H
	5400, 5500	FE	E.M.D.
Freight Road Switcher	6200	FSB	B-L-H
	6400	FSE	E.M.D.
	6700	FSF	F.M.
Freight Road Switcher (6 Traction Motors)	7400	FS6E	E.M.D.
Switcher (Under 900 H.P.)	8000	SA	ALCO
	8200	SB	B-L-H
	8400	SE	E.M.D.
	8800	SG	G.E.
Switcher (900 H.P. and Over)	9000	SA	ALCO
	9200, 9300	SB	B-L-H
	9400	SE	E.M.D.
	9700	SF	F.M.

All Units have 4 Traction Motors Unless Otherwise Noted.

IDENTIFICATION OF BUILDERS' INITIALS

ALCO - Alco Products, Inc.
B-L-H - Baldwin-Lima-Hamilton Corporation
E.M.D. - Electro-Motive Division (General Motors Corp.)
F.M. - Fairbanks, Morse & Co.
G.E. - General Electric Company

To aid the electronic data processing, four digit numbers are adopted for all Diesel Locomotive Units and three digit numbers for all Steam Locomotives.

We have adopted new series of numbers for Diesel Locomotive Units so it will be possible to distinguish the service for which Diesel Unit was built and Builder from the road number.

The first digit of the road numbers determines the service per the following system:-

First Digit Figure	Service
1	Passenger Road "A" Unit
2	Passenger Road "B" Unit
3	Passenger Road Switcher
4	Freight Road "A" Unit
5	Freight Road "B" Unit
6	Freight Road Switcher (Four Motors)
7	Freight Road Switcher (Six Motors)
8	Switcher (Under 900 H.P.)
9	Switcher (900 H.P. and Over)

The second digit determines the Locomotive Builder as follows:-

Second Digit Figure	Locomotive Builder
0 & 1	Alco Products, Inc.
2 & 3	Baldwin-Lima-Hamilton Corporation
4, 5 & 6	Electro-Motive Division (G.M.C.)
7	Fairbanks, Morse & Co.
8	General Electric Co.

Examples of the above identification scheme:-

Road Number	Service and Builder
1408	Passenger Road "A" Unit (E.M.D.)
2410	Passenger Road "B" Unit (E.M.D.)
3401	Passenger Road Switcher (E.M.D.)
4674	Freight Road "A" Unit (E.M.D.)
5513	Freight Road "B" Unit (E.M.D.)
6202	Freight Road Switcher (B-L-H)
7406	Freight Road Switcher (E.M.D.)
8015	Switcher (ALCO)
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FREE ILLUSTRATED HYPNOTISM Catalogue. Write: Hypnotist, 8721 Sunset, Hollywood 46W, California.

WANT YOUR BOOK published? Free booklet 56. Vantage, 120 W. 31, New York City.

LAND BARGAINS

ARIZONA HOMESITES! NO money down, $149.50 total $5 month! Hunting, fishing, near city. Streets, utilities available. Deer Run Ranch Estate, Box 26, Casa Grande, Arizona.

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$200 MONTHLY POSSIBLE, Sewing Babywear! No house selling! Send stamped, addressed envelope. Cutie Cuties, Warsaw 13, Indiana.

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CHOOSE YOUR OWN Business. Learn in Your Spare Time. Send One Dollar For Complete Information. Fox, Box D, Elgin, Nebr.

FREE: "RETIREMENT . . . $68,700.00 Investor's Dream!" Zinke, 315 Lincoln, Mount Morris, Illinois.

MAKE EXTRA MONEY Sparetime. Tom Sales, 1305-V North Western, Chicago 22.

New classifications have been assigned to Diesel Units so that service of unit and Builder can be determined by the class.

The 1st letter in classification identifies the Builder and the preceding letters and figures identify the road service. In addition, number (6) is used to identify road switchers with 6 traction motors.

The following system was adopted:-

Class	Service	Builder
PE	Passenger Road Unit	E.M.D.
PSE	Passenger Road Switcher	E.M.D.
FA	Freight Road Unit	ALCO
FB	Freight Road Unit	B-L-H
FE	Freight Road Unit	E.M.D.
FSB	Freight Road Switcher	B-L-H
FSE	Freight Road Switcher	E.M.D.
FSF	Freight Road Switcher	F.M.
FS6E	Freight Road Switcher (6 Motors)	E.M.D.
SA	Switcher	ALCO
SB	Switcher	B-L-H
SE	Switcher	E.M.D.
SF	Switcher	F.M.
SG	Switcher	G.E.

The figure following the classification letters, such as PE-1, PSE-2, FA-3, etc., is used to group the Diesel units by Horsepower or Model, and the numbers begin with lowest H.P. unit of each group.

Suffix letter "X" behind figure for Road Units such as FB-1X, FE-3X, etc. signifies it is a "B" Unit not equipped with cab.

Suffix letter "C" behind figure for Switching Locomotives such as SA-3C, SE-6C, etc., signifies unit is equipped for Multiple Unit Control.

Examples of the above Schemes:-

Class	Unit	
PE-3	Passenger Road "A" Unit	(E.M.D.)
FB-2X	Freight Road "B" Unit	(B-L-H)
FSF-2	Freight Road Switcher	(F.M.)
FS6E-4	Freight Road Switcher-Six Motors	(E.M.D.)
SA-3C	Switcher - M.U. Control	(ALCO)

RENUMBERING AND RECLASSIFICATION OF DIESEL FREIGHT ROAD UNITS

Road No. Previous	Road No. New	Class Previous	Class New
101	4400	DF-1	FE-1
101X	5400	DF-1X	FE-1X
101A	4401	DF-1	FE-1
101AX	5401	DF-1X	FE-1X
103	4402	DF-1	FE-1
103X	5402	DF-1X	FE-1X
103A	4403	DF-1	FE-1
103AX	5403	DF-1X	FE-1X
105	4404	DF-1	FE-1
105X	5404	DF-1X	FE-1X
105A	4405	DF-1	FE-1
105AX	5405	DF-1X	FE-1X
107	4406	DF-2	FE-1
107X	5406	DF-2X	FE-1X
107A	4407	DF-2	FE-1
107AX	5407	DF-2X	FE-1X
109	4408	DF-2	FE-1
109X	5408	DF-2X	FE-1X
109A	4409	DF-2	FE-1
109AX	5409	DF-2X	FE-1X
111	4410	DF-2	FE-1
111X	5410	DF-2X	FE-1X
111A	4411	DF-2	FE-1
111AX	5411	DF-2X	FE-1X
113	4420	DF-3	FE-2
113A	4421		
115	4422		
115A	4423		
117	4424		
117A	4425		
119	4426		
119A	4427		
121	4428		
121A	4429		
123	4430		
123A	4431		
125	4432		
125A	4433		
127	4434		
127A	4435	DF-3	FE-2
129	4436		
129A	4437		
131	4438		
131A	4439		
133	4440		
133A	4441		
135	4442		
135A	4443		
137	4444		
137A	4445		
139	4446		
139A	4447		
141	4448		
141A	4449		
143	4450		
143A	4451		
145	4452		
145A	4453		
147	4454		
147A	4455		
149	4456		
149A	4457		
151	4458		
151A	4459		
153	4460	DF-5	FE-3
153X	5420	DF-5X	FE-3X
153A	4461	DF-5	FE-3
155	4462		
155X	5421	DF-5X	FE-3X
155A	4463	DF-5	FE-3
157	4464		
157X	5422	DF-5X	FE-3X
157A	4465	DF-5	FE-3
159	4466		
159X	5423	DF-5X	FE-3X
159A	4467	DF-5	FE-3
161	4468		
161X	5424	DF-5X	FE-3X

Road No. Previous	Road No. New	Class Previous	Class New
161A	4469	DF-5	FE-3
163	4470		
163X	5425	DF-5X	FE-3X
163A	4471	DF-5	FE-3
165	4472		
165X	5426	DF-5X	FE-3X
165A	4473	DF-5	FE-3
167	4474		
167X	5427	DF-5X	FE-3X
167A	4475	DF-5	FE-3
169	4476		
169X	5428	DF-5X	FE-3X
169A	4477	DF-5	FE-3
171	4478		
171X	5429	DF-5X	FE-3X
171A	4479	DF-5	FE-3
180	4480		
180X	5430	DF-5X	FE-3X
180A	4481	DF-5	FE-3
180AX	5431	DF-5X	FE-3X
182	4482	DF-5	FE-3
182X	5432	DF-5X	FE-3X
182A	4483	DF-5	FE-3
182AX	5433	DF-5X	FE-3X
184	4484	DF-5	FE-3
184X	5434	DF-5X	FE-3X
184A	4485	DF-5	FE-3
184AX	5435	DF-5X	FE-3X
186	4486	DF-5	FE-3
186X	5436	DF-5X	FE-3X
186A	4487	DF-5	FE-3
186AX	5437	DF-5X	FE-3X
188	4488	DF-5	FE-3
188X	5438	DF-5X	FE-3X
188A	4489	DF-5	FE-3
188AX	5439	DF-5X	FE-3X
190	4490	DF-5	FE-3
190X	5440	DF-5X	FE-3X
190A	4491	DF-5	FE-3
190AX	5441	DF-5X	FE-3X
192	4492	DF-5	FE-3
192X	5442	DF-5X	FE-3X
192A	4493	DF-5	FE-3
192AX	5443	DF-5X	FE-3X
231	4494	DF-5	FE-3
231X	5444	DF-5X	FE-3X
233	4495	DF-5	FE-3
233X	5445	DF-5X	FE-3X
235	4496	DF-5	FE-3
235X	5446	DF-5X	FE-3X
237	4497	DF-5	FE-3
237X	5447	DF-5X	FE-3X
239	4498	DF-5	FE-3
239A	4499		
241	4500		
241A	4501		
243	4502		
243A	4503		
245	4504		
245A	4505		
247	4506		
247A	4507		
249	4508		
249X	5448	DF-5X	FE-3X
249A	4509	DF-5	FE-3
251	4510		
251X	5449	DF-5X	FE-3X
251A	4511	DF-5	FE-3
253	4512		
253X	5450	DF-5X	FE-3X
253A	4513	DF-5	FE-3
255	4514		
255X	5451	DF-5X	FE-3X
255A	4515	DF-5	FE-3
257	4516		
257X	5452	DF-5X	FE-3X
257A	4517	DF-5	FE-3
259	4518		
259X	5453	DF-5X	FE-3X
259A	4519	DF-5	FE-3
261	4520		
261X	5454	DF-5X	FE-3X
261A	4521	DF-5	FE-3
263	4522		
263X	5455	DF-5X	FE-3X
263A	4523	DF-5	FE-3
265	4524		
265X	5456	DF-5X	FE-3X
265A	4525	DF-5	FE-3
267	4526		
267X	5457	DF-5X	FE-3X
267A	4527	DF-5	FE-3
269	4528		
269X	5458	DF-5X	FE-3X
269A	4529	DF-5	FE-3
271	4530		
271X	5459	DF-5X	FE-3X
271A	4531	DF-5	FE-3
273	4532		
273X	5460	DF-5X	FE-3X
273A	4533	DF-5	FE-3
275	4534		
275X	5461	DF-5X	FE-3X
275A	4535	DF-5	FE-3
277	4536		
277X	5462	DF-5X	FE-3X
277A	4537	DF-5	FE-3
279	4538		
279X	5463	DF-5X	FE-3X
279A	4539	DF-5	FE-3
281	4540		
281X	5464	DF-5X	FE-3X
281A	4541	DF-5	FE-3
283	4542		
283X	5465	DF-5X	FE-3X
283A	4543	DF-5	FE-3
285	4544		
285X	5466	DF-5X	FE-3X
285A	4545	DF-5	FE-3
287	4546		
287X	5467	DF-5X	FE-3X
287A	4547	DF-5	FE-3
289	4548		
289X	5468	DF-5X	FE-3X
289A	4549	DF-5	FE-3
291	4550		
291X	5469	DF-5X	FE-3X
291A	4551	DF-5	FE-3
293	4552		
293X	5470	DF-5X	FE-3X
293A	4553	DF-5	FE-3
295	4554		
295X	5471	DF-5X	FE-3X
295A	4555	DF-5	FE-3
297	4556		
297X	5472	DF-5X	FE-3X
297A	4557	DF-5	FE-3
361	4558		
361X	5473	DF-5X	FE-3X
361A	4559	DF-5	FE-3
363	4560		
363X	5474	DF-5X	FE-3X
363A	4561	DF-5	FE-3
363AX	5475	DF-5X	FE-3X
365	4562	DF-5	FE-3
365X	5476	DF-5X	FE-3X
365A	4563	DF-5	FE-3
365AX	5477	DF-5X	FE-3X
367	4564	DF-5	FE-3
367X	5478	DF-5X	FE-3X
367AX	5479		
368	4565	DF-5	FE-3
368X	5480	DF-5X	FE-3X
368AX	5481		
369	4566	DF-5	FE-3
369X	5482	DF-5X	FE-3X
369AX	5483	DF-5X	FE-3X
370	4567	DF-5	FE-3
370X	5484	DF-5X	FE-3X
370AX	5485		
371	4568	DF-5	FE-3
371X	5486	DF-5X	FE-3X
371AX	5487		
372	4569	DF-5	FE-3
372X	5488	DF-5X	FE-3X
372AX	5489		
373	4570	DF-5	FE-3
373X	5490	DF-5X	FE-3X
373AX	5491		
374	4571	DF-5	FE-3
374X	5492	DF-5X	FE-3X
374AX	5493		
801	4000	DF-7	FA-1
801X	5000	DF-7X	FA-1X
801A	4001	DF-7	FA-1
803	4002		
803X	5001	DF-7X	FA-1X
815A	4015	DF-7	FA-1
817	4016		
817X	5008	DF-7X	FA-1X
817A	4017	DF-7	FA-1
817AX	5009	DF-7X	FA-1X
819	4018	DF-7	FA-1
819X	5010	DF-7X	FA-1X
819A	4019	DF-7	FA-1
821	4020		
821X	5011	DF-7X	FA-1X
821A	4021	DF-7	FA-1
823	4022		
823X	5012	DF-7X	FA-1X
823A	4023	DF-7	FA-1
825	4024		
825X	5013	DF-7X	FA-1X
825A	4025	DF-7	FA-1
827	4026		
827X	5014	DF-7X	FA-1X
827A	4027	DF-7	FA-1
829	4028		

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
803A	4003	DF-7	FA-1	829X	5015	DF-7X	FA-1X
805	4004			829A	4029	DF-7	FA-1
805X	5002	DF-7X	FA-1X	831	4030		
805A	4005	DF-7	FA-1	831X	5016	DF-7X	FA-1X
807	4006			831A	4031	DF-7	FA-1
807X	5003	DF-7X	FA-1X	833	4032		
807A	4007	DF-7	FA-1	833X	5017	DF-7X	FA-1X
809	4008			833A	4033	DF-7	FA-1
809X	5004	DF-7X	FA-1X	835	4034		
809A	4009	DF-7	FA-1	835X	5018	DF-7X	FA-1X
811	4010			835A	4035	DF-7	FA-1
811X	5005	DF-7X	FA-1X	837	4036		
811A	4011	DF-7	FA-1	837X	5019	DF-7X	FA-1X
813	4012			837A	4037	DF-7	FA-1
813X	5006	DF-7X	FA-1X	837AX	5020	DF-7X	FA-1X
813A	4013	DF-7	FA-1	847	4200	DF-9	FB-1
815	4014			847X	5200	DF-9X	FB-1X
815X	5007	DF-7X	FA-1X	849	4201	DF-9	FB-1

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
849X	5201	DF-9X	FB-1X	933	4576	DF-5	FE-3
851	4202	DF-8	FB-2	933X	5496	DF-5X	FE-3X
851X	5202	DF-8X	FB-2X	933A	4577	DF-5	FE-3
851A	4203	DF-8	FB-2	935	4578		
853	4204			935X	5497	DF-5X	FE-3X
853X	5203	DF-8X	FB-2X	935A	4579	DF-5	FE-3
853A	4205	DF-8	FB-2	937	4580		
855	4206			937X	5498	DF-5X	FE-3X
855X	5204	DF-8X	FB-2X	937A	4581	DF-5	FE-3
855A	4207	DF-8	FB-2	939	4582		
857	4208			939X	5499	DF-5X	FE-3X
857X	5205	DF-8X	FB-2X	939A	4583	DF-5	FE-3
857A	4209	DF-8	FB-2	941	4584		
859	4210			941X	5500	DF-5X	FE-3X
859X	5206	DF-8X	FB-2X	941A	4585	DF-5	FE-3
859A	4211	DF-8	FB-2	943	4586		
861	4212			943X	5501	DF-5X	FE-3X
861X	5207	DF-8X	FB-2X	943A	4587	DF-5	FE-3
861A	4213	DF-8	FB-2	945	4588		
863	4214			945X	5502	DF-5X	FE-3X
863A	4215			945A	4589	DF-5	FE-3
865	4216			947	4590		
865X	5208	DF-8X	FB-2X	947X	5503	DF-5X	FE-3X
865A	4217	DF-8	FB-2	947A	4591	DF-5	FE-3
867	4218			949	4592		
867X	5209	DF-8X	FB-2X	949X	5504	DF-5X	FE-3X
867AX	5210			949A	4593	DF-5	FE-3
869	4219	DF-8	FB-2	951	4594		
869X	5211	DF-8X	FB-2X	951X	5505	DF-5X	FE-3X
869AX	5212			951A	4595	DF-5	FE-3
871	4220	DF-8	FB-2	953	4596		
871X	5213	DF-8X	FB-2X	953X	5506	DF-5X	FE-3X
871AX	5214			953A	4597	DF-5	FE-3
929	4572	DF-5	FE-3	955	4598		
929X	5494	DF-5X	FE-3X	955X	5507	DF-5X	FE-3X
929A	4573	DF-5	FE-3	955A	4599	DF-5	FE-3
931	4574			957	4600		
931X	5495	DF-5X	FE-3X	957X	5508	DF-5X	FE-3X
931A	4575	DF-5	FE-3	957A	4601	DF-5	FE-3

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
959	4602	DF-5	FE-3	979X	5512	DF-5X	FE-3X
959X	5509	DF-5X	FE-3X	979A	4622	DF-5	FE-3
959A	4603	DF-5	FE-3	981	4623		
961	4604			981X	5513	DF-5X	FE-3X
961X	5510	DF-5X	FE-3X	981A	4624	DF-5	FE-3
961A	4605	DF-5	FE-3	983	4625		
963	4606			983X	5514	DF-5X	FE-3X
963A	4607			983A	4626	DF-5	FE-3
965	4608			985	4627		
965A	4609			985X	5515	DF-5X	FE-3X
967	4610			985A	4628	DF-5	FE-3
967A	4611			987	4629		
969	4612			987X	5516	DF-5X	FE-3X
969A	4613			987A	4630	DF-5	FE-3
971	4614			989	4631		
971A	4615			989X	5517	DF-5X	FE-3X
973	4616			989A	4632	DF-5	FE-3
973A	4617			991	4633		
975	4618			991X	5518	DF-5X	FE-3X
977	4619			991A	4634	DF-5	FE-3
977X	5511	DF-5X	FE-3X	993	4635		
977A	4620	DF-5	FE-3	993X	5519	DF-5X	FE-3X
979	4621			993A	4636	DF-5	FE-3

DIESEL PASSENGER ROAD UNITS

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
26	1446	DP-6	PE-5	64A	1416	DP-4	PE-3
26A	1447			66	1417		
28	1448			66A	1418		

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
28A	1449	DP-6	PE-5	68	1419	DP-4	PE-3
30	1450			68A	1420		
30A	1451			70	1421		
32	1452			70A	1422		
32A	1453			72	1423		
34	1454	DP-8	PE-6	72A	1424		
36	1455			74	1425		
38	1456			74A	1426		
40	1457			76	1427		
51	1433	DP-7	PE-4	76A	1428		
51X	2414	DP-7X	PE-4X	78	1429		
52	1407	DP-3	PE-2	78A	1430		
52X	2415	DP-7X	PE-4X	80	1431		
53	1434	DP-7	PE-4	80A	1432		
53X	2416	DP-7X	PE-4X	82	1400	DP-5	PE-1
54	1435	DP-7	PE-4	82X	2400	DP-5X	PE-1X
54X	2417	DP-7X	PE-4X	82A	1401	DP-5	PE-1
55	1436	DP-7	PE-4	82AX	2401	DP-5X	PE-1X
55X	2418	DP-7X	PE-4X	84	1402	DP-5	PE-1
56	1437	DP-7	PE-4	84X	2402	DP-5X	PE-1X
56X	2419	DP-7X	PE-4X	84A	1403	DP-5	PE-1
57	1408	DP-3	PE-2	84AX	2403	DP-5X	PE-1X
57X	2407	DP-3X	PE-2X	86	1404	DP-5	PE-1
58	1409	DP-3	PE-2	86X	2404	DP-5X	PE-1X
58X	2408	DP-3X	PE-2X	86A	1405	DP-5	PE-1
59	1410	DP-3	PE-2	86AX	2405	DP-5X	PE-1X
59X	2409	DP-3X	PE-2X	88	1406	DP-5	PE-1
60	1411	DP-3	PE-2	88X	2406	DP-5X	PE-1X
60X	2410	DP-3X	PE-2X	90	1438	DP-6	PE-5
61	1412	DP-3	PE-2	90A	1439		
61X	2411	DP-3X	PE-2X	92	1440		
62	1413	DP-3	PE-2	92A	1441		
62X	2412	DP-3X	PE-2X	94	1442		
63	1414	DP-3	PE-2	94A	1443		
63X	2413	DP-3X	PE-2X	96	1444		
64	1415	DP-4	PE-3	96A	1445		

DIESEL FREIGHT ROAD SWITCHERS

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
675	6425	RSE-8C	FSE-2	768	7407	RSE-7C	FS6E-3
676	6426			769	7408		
677	6427			770	7409		
678	6428			771	7410		
679	6429			772	7411		
680	6430			773	7413	RSE-10C	FS6E-5
681	6431			774	7414		
682	6432			890	6207	RSB-1C	FSB-1
683	6433			891	6208		
684	6434			892	6209		
685	6435			893	6210		
686	6436			894	6211		
687	6437			895	6212		
688	6438			896	6213		
689	6439			897	6214		
690	6440			898	6215		
691	6441			899	6206		
692	6442			900	6200		
693	6443			901	6201		
694	6444			902	6202		
695	6445			903	6203		
696	6446			904	6204		
720	6413	RSE-3C	FSE-1	905	6205	RSF-2C	FSF-1
721	6414			906	6700		
722	6415			907	6701		
723	6416			910	6400	RSE-3C	FSE-1
724	6417			911	6401		
725	6418			912	6402		
726	6419			913	6403		
727	6420			914	6404		
728	6421			915	6405		
729	6422			916	6406		
730	6423			917	6407		
731	6424			918	6408		
760	7400	RSE-5C	FS6E-1	919	6409		
761	7401	RSE-6C	FS6E-2	920	6410		
762	7402			921	6411		
763	7403			922	6412		
764	7404			925	6702	RSF-11C	FSF-2
765	7405	RSE-7C	FS6E-3	926	6703		
766	7406			927	6704		
767	7412	RSE-7CW	FS6E-4				

DIESEL PASSENGER ROAD SWITCHERS

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
740	3400	RSE-4C	PSE-1	747	3407	RSE-9C	PSE-2
741	3401			748	3408		
742	3402			749	3409		
743	3403			750	3410		
744	3404			751	3411		
745	3405			752	3412		
746	3406						

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KENMORE, Milford HF-866, New Hampshire
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Men's Mart

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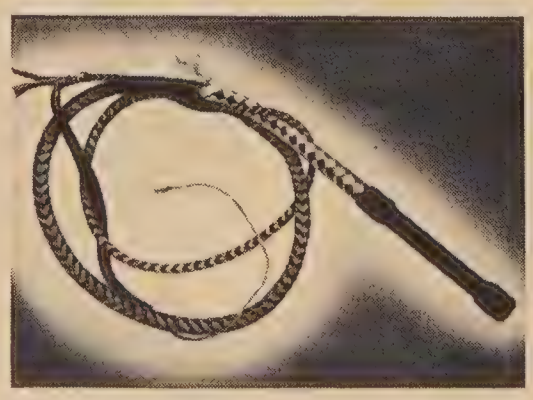
Recognize these? Probably the most durable phones ever made, these have been reconditioned and refinished in gleaming black, and together make a good and cheap intercom system. A pair, with a surplus battery and 50 feet of wire, $6.95 ppd. (With all brass phones, $11.95.) Additional black phones, $3.95 ppd. each. (Brass, $5.95.) Scientific Co., Room 411, 49 East 41st St., N.Y. 17, N.Y.

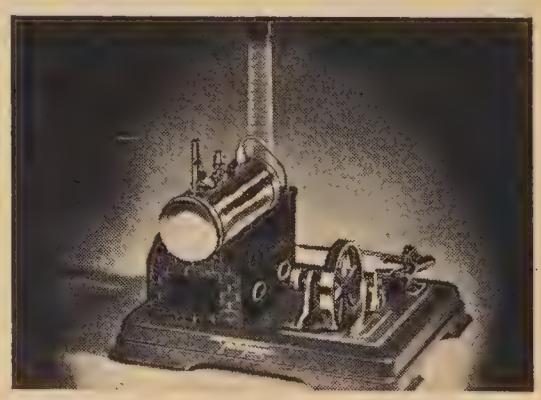
Chances are that one time or another in your life you've eaten alphabet soup—and that's exactly what gave the good man who makes this game his idea. He's called it "Goomicus", and it's made up of 120 colorful non-toxic plastic letters which clip together to form word chains. Cute and educational. With rules and directions, $1.98 ppd. from Alphabet Soup Co., 419 Eldert Lane, Brooklyn, N.Y.

This 17-jewel watch has a high grade Swiss movement, and is waterproof, shockproof and anti-magnetic. It has an unbreakable mainspring and crystal, and is easy to read. Ideal for outdoorsman, it has luminous dial and hands, sweep-second hand. Electronically timed and adjusted, it has a 2-year guarantee. $14.95 ppd. Karron Enterprises, Dept. E, 2 S. Main St., S. Norwalk, Conn.

This is a new type of night-driving glasses that have amber-tinted lenses which let through infra-red light so that the wearer can see more clearly at night and in hazy, foggy weather. Glasses have 24K gold-plated aviation frame, adjustable nosepads. With case, $2.98 ppd. Clip-on type, $2.25 ppd. Specify for man or woman. Stuyvesant Trading, Dept. AD, 130 W 42nd, N. Y.



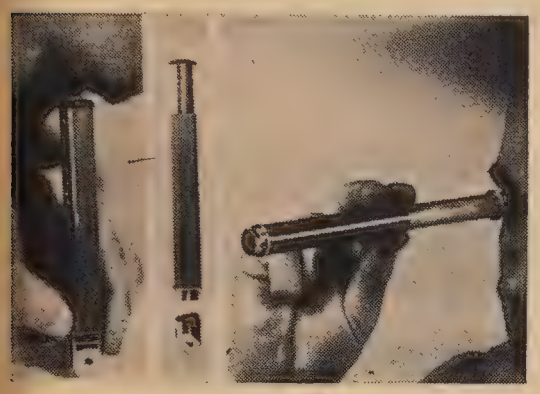
You're looking at an authentic old-time Western bull-whip (like the ones stagecoach drivers used) complete to weighted swivel handle. You can really twirl this one and it makes a terrific crack. Top-grade calf is 8-plaited, whip is balanced for accuracy. Real craftsmanship, low price. 6 ft., $7.95; 8 ft., $9.95; 10 ft., $11.95; 12 ft., $13.95. Arms & Weapons, 40-G East 40th, N.Y. 16.



This precision-made, live-steam engine will add realistic power to any operating model. Develops 1/30th h.p. at 1,000 r.p.m. Boiler is drawn brass and fittings are solid bronze. Has hand-throttle steam whistle and grooved pulley wheel. Operates off safe dry fuel and measures some 10". German-made; with fuel for initial run. $8.95 ppd. from Chabon Scientific, 60-A East 42nd St., New York.

SHOP BY MAIL

Object you're looking at is an unusual album for Lincoln head pennies—there's a place for 59 pennies, some easy to come by, others hard to find. Idea is to fill the album, naturally, but when full it'll be worth $16. Album's $1 ppd. from BYBY-MAIL, Box 488, Dept. A, Hempstead, N.Y. If you fill the album and return it to them, they give you $16 and $1 purchase refund.



No bigger than a fountain pen, but plenty powerful is this new precision-made pocket microscope-telescope. Handy for sports, looking at rare objects, just plain snooping. Telescope magnifies 10-power with a wide, brilliant field. Microscope is 50-power. Focus sharp at any range: a real optical instrument, not a toy. $4.95 ppd. Prince Enterprises, 103 Park Ave., N.Y.

Oliver MixMatic fuel tank automatically proportions oil and gas in accurate ratio regardless of the amount of fuel remaining in tank. It eliminates measuring and guesswork, or the need for buying expensive pre-mixed fuels. Made of heavy, lead-coated steel and finished in red baked enamel, tank capacity is six gallons. For information: Oliver Outboard Motors, Battle Creek, Mich.

View of one of the lawns surrounding the lovely $200,000 home of Spurgeon Pickering, owner of Mondo Grass Company, on the beautiful beach of the Gulf of Mexico; the entire 7 lawns, sidewalk shoulders and neutral grounds are planted solidly in Mondo Grass, truly one of the most attractive show places of the South.

NOW IS GOOD TIMES TO PLANT

May Be Planted Summer, Fall, Winter, Spring

BLUE-GREEN

MONDO GRASS

Trade Mark Registration applied for U.S. Patent Office

REQUIRES NO MOWING—MAKES WORLD'S MOST BEAUTIFUL LAWN

Our Blue-Green Mondo Grass is described by the U. S. Department of Agriculture as quote "Ophiopogen Japonicus, technically called ground cover (formerly called Mondo Japonicus), is native to Northern China and should withstand severe degree of freezing; drought tolerant, evergreen, commonly called Mondo Grass" unquote.

It is a grass relative to the lily with paper thin blades 1/16" wide. This sod-forming EVERGREEN, low-growing oriental genus is currently used by many owners of distinctive homes in America for lawn grass. Now we can offer this exclusive Blue-Green Mondo Grass at popular prices.

SO HARDY IT CAN BE PLANTED ANYTIME, it is recommended for beautiful lawns where mowing is not desired. Blue-Green Mondo Grass retains its color the year-'round; thrives in shade or sun; extremely hardy, rarely requires watering; fantastically beautiful, drooping low to the ground in weeping style year after year. REQUIRES NO MOWING.

Ideal for heavy shaded areas, dry or wet. FREE folder of testimonials and many photos of Mondo Grass lawns sent on request.

Mondo is resistant to diseases; insects and animals will not feed on it. Stops erosion; grows compactly, crowding out other grass and weeds; multiplies rapidly, approximately 100 times (10,000%) first year. Enhances property value. So sensational we expect to revolutionize lawn-making. For good coverage first year plant 4" to 12" apart. Numerous rooted blades to sprig.

Planting and culture instructions with each order. Remittance with order. Shipped prepaid. MONEY-BACK GUARANTEE; if not completely delighted you may return at once for refund. Open accounts to A-1 rated firms buying 1,000 sprigs or more, FOB, Biloxi.

ORDER TODAY . . . YOU CAN'T LOSE!

Sprigs packed in damp moss. Guaranteed to grow or we will replace.

25 Sprigs	$ 2.98
50 Sprigs	5.00
100 Sprigs	9.00
500 Sprigs	40.00
1,000 Sprigs	79.00
5,000 Sprigs or more per 1,000	50.00

Mondo Grass Co., Dept. AM-9, Biloxi, Miss.

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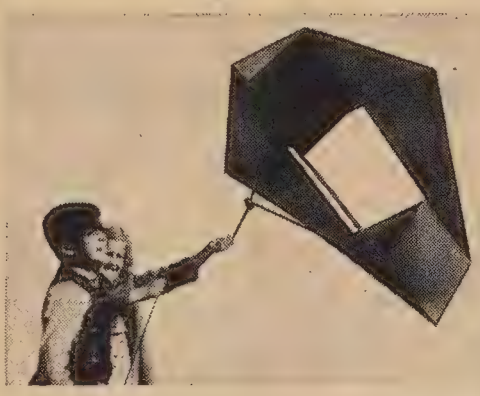
Address.....

City.....State.....



This is the first time in years that someone has come up with a new kite—and this is a beauty. It's three-dimensional, made of tear proof acetate cloth and is a good 28" high. No tail is needed, and it really soars. The good people that make it call it a Space-Kite. It comes with a free weather map of the U. S. for $1.98 ppd. Allen Whitney, Dept. AMG, 413 Chapel St., New Haven, Conn.

NEW MOLD-PRODUCED CHEMICAL FOR

BALDNESS

"This hair formula has actually grown full new hair on the bald and balding heads of many, but not all, of my clients. I and doctors with whom I have discussed it believe that the activating ingredients were produced by nature. In 1950, the 15 year of my experiments, a solution in my laboratory produced a culture of air borne mold similar to those which produce penicillin and other antibiotics. 'To my amazement this formula completely eliminated dandruff and itchy scalp and grew hair where it has long been balding,' writes one user. My formula and scalp treatment involve no oils, heat or odor and there is no way for others to tell you are treating your scalp except from results. Application and morning hair combing may be done at the same time. My treatment costs $10 postpaid for an 8 week supply with instructions. If you prefer to read more about this formula, send your name and address for absolutely free information. I believe that my formula in some way assists nature in restimulating growth of hair. I hope you will experience the happy results that so many of my clients have written and shown me."

WALTER FIELD, Dept.18, 6399 Wilshire, Los Angeles 48, Cal.

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Idol of the Airlanes

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DIESEL SWITCHING UNITS

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
19	8801	DS-15C	SC-2	303	9703	DS-13FC	SF-1C
20	8802			304	9704		
194	8800	DS-7C	SC-1	305	9705		
195	8000	DS-1A	SA-1	306	9706		
196	9720	DS-18FC	SF-3C	307	9707		
197	9721			308	9708		
198	8820	DS-8C	SC-3	309	9709		
199	8422	DS-2E	SE-2	310	9710	DS-16FC	SF-2C
200	8400	DS-3E	SE-1	311	9711		
201	8401			312	9712		
202	8402			313	9713		
203	8403			314	9714		
204	8404			315	9715		
205	8405			316	9716		
206	8406			317	9717		
207	8407			318	9718		
208	8408			319	9719		
209	8409			320	9376	DS-14LC	SB-5C
210	8410			321	9377		
211	8411			322	9378		
212	8412			323	9379		
213	8413			324	9380		
214	8414			325	9381		
215	8415			326	9382		
216	8416			327	9383		
217	8417			328	9384		
218	8418			329	9385		
219	8419			330	9366	DS-14L	SB-5
220	8420			331	9367		
221	8421			332	9368		
222	8010	DS-9A	SA-2	333	9369		
223	8011			334	9370		
224	8012			335	9371		
225	8013			336	9372		
226	8014			337	9373		
227	8015			338	9374		
300	9700	DS-13FC	SF-1C	339	9375		
301	9701			340	9386	DS-14LC	SB-5C
302	9702			341	9387		

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
342	9388	DS-14LC	SB-5C	402	9502	DS-4E	SE-4
343	9389			403	9503		
344	9390			404	9504		
345	9391			405	9505		
346	9392			406	9506		
347	9393			407	9507		
348	9394			408	9508		
349	9395			409	9509		
350	9396			410	9510		
351	9397			411	9511		
352	9398			413	9221	DS-6BC	SB-2C
353	9399			414	9200	DS-6B	SB-2
375	8200	DS-21B	SB-1	415	9222	DS-6BC	SB-2C
376	9250	DS-12RA	SB-4	416	9201	DS-6B	SB-2
377	9251			417	9202		
378	9252			418	9203		
379	9253			419	9204		
380	9254			420	9205		
381	9255			421	9223	DS-6BC	SB-2C
382	9256	DS-12BC	SB-4C	422	9206	DS-6B	SB-2
383	9257			423	9207		
384	9258			424	9208		
385	9259			425	9209		
386	9260			426	9210		
387	9261			427	9211		
388	9262			428	9212		
389	9263			429	9224	DS-6BC	SB-2C
390	9264			430	9213	DS-6B	SB-2
391	9265			431	9214		
392	9266			432	9215		
393	9267			433	9216		
394	9268			434	9217		
395	9269			435	9218		
396	9270			436	9219		
397	9271			437	9220		
398	9272			438	9225	DS-12B	SB-3
399	9273			439	9226		
400	9500	DS-4E	SE-4	440	9227		
401	9501			441	9228		

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
442	9229	DS-12B	SB-3	481	9025	DS-5A	SA-3
443	9230			482	9026		
444	9231			483	9027		
445	9232			484	9028		
446	9233			485	9029		
447	9234			486	9030		
448	9235			487	9031		
449	9236			488	9032		
450	9237			489	9033		
451	9238			490	9034		
452	9239			491	9035		
453	9240			492	9036		
454	9241			493	9037		
455	9242			494	9038		
456	9243			495	9039		
457	9244			496	9040		
458	9245			497	9041		
459	9246			498	9042		
460	9247			499	9043		
461	9248			500	9044		
462	9249			501	9045		
463	9274	DS-19BC	SB-6C	502	9046		
464	9275			503	9047		
465	9276			504	9048		
466	9277			505	9049		
467	9278			506	9050		
468	9008	DS-5AC	SA-3C	507	9051		
469	9009			508	9052		
470	9010			509	9053		
471	9011			510	9054		
472	9012			511	9055		
473	9013			512	9056		
474	9014			513	9057		
475	9019	DS-5A	SA-3	514	9058		
476	9020			515	9059		
477	9021			516	9060		
478	9022			517	9061		
479	9023			518	9062		
480	9024			519	9063		

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
520	9064	DS-5A	SA-3	563	9515	DS-11E	SE-5
521	9065			564	9516		
522	9066			565	9517		
523	9067			566	9518		
524	9068			567	9519		
525	9069			568	9520		
526	9070			569	9521		
527	9071			570	9522		
528	9072			571	9523		
529	9073			572	9524		
530	9074			573	9525		
531	9075			574	9526		
532	9076			575	9527		
533	9077			576	9528		
534	9000	DS-5AC	SA-3C	577	9529		
535	9001			578	9530		
536	9002			579	9531		
537	9003			580	9532		
538	9004			581	9533		
539	9005			582	9534		
540	9006			583	9535		
541	9007			584	9536		
542	9015			585	9537		
543	9016			586	9538		
544	9017			587	9539		
545	9018			588	9540		
550	9542	DS-11EC	SE-5C	589	9541	DS-17EC	SE-6C
551	9543			590	9600		
552	9544			591	9601		
553	9545			592	9602		
554	9546			593	9603		
555	9547			594	9604		
556	9548			595	9605		
557	9549			596	9606		
558	9550			597	9607		
559	9551			598	9608		
560	9512	DS-11E	SE-5	599	9609		
561	9513			600	9610		
562	9514			601	9611		

Diesel rail motor car No. 6511, Class DD-1. (See page 66.)

Road No.		Class		Road No.		Class	
Previous	New	Previous	New	Previous	New	Previous	New
602	9612	DS-17EC	SE-6C	639	9414	DS-20E	SE-3
603	9613			640	9415		
625	9400	DS-20E	SE-3	641	9416		
626	9401			642	9417		
627	9402			643	9418		
628	9403			644	9419		
629	9404			645	9420		
630	9405			646	9421		
631	9406			647	9422		
632	9407			648	9423		
633	9408			649	9424		
634	9409			650	9425		
635	9410			651	9426		
636	9411			652	9427		
637	9412			653	9428		
638	9413						

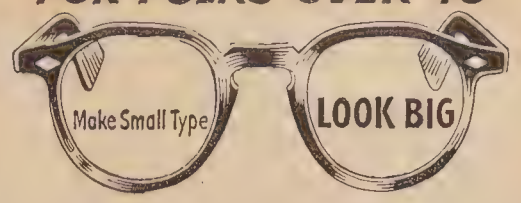
Passenger unit No. 82, now 1400, at Ivy City engine terminal, Washington, D. C.

Richard Wallin, 664 Hawbrook, Kirkwood, Mo.

The B&O's No. 5555, a dependable 4-8-2 type on an Illini Railroad Club fantrip out of Chicago last March 31st, stops at Garrett to take on fuel and water.

MAGNIFYING GLASSES

FOR FOLKS OVER 40



NOW, — magnifying lenses for elderly folks who don't wear glasses regularly, who do not have astigmatism or diseases of the eye, and who have difficulty reading newspapers, the Bible and doing fancy work. It's no longer necessary to struggle and squint with an old-fashioned magnifying glass which has only one lens, because Precision Magnifying glasses bring you a magnifying lens for each eye and help stop eyestrain and discomfort. Permit restful reading hour after hour like you never did before. Try them at home on a five day trial plan that leaves no room for doubt.

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Boston 14, Mass.

DIESEL UNITS DELIVERED IN 1956

77 - E.M.D. Road Switchers				22 Alco Switchers	
Road No.	Class	Road No.	Class	Road No.	Class
3413		6473		9078	
3414		6474		9079	
3415		6475		9080	
3416		6476		9081	
3417		6477		9082	
3418		6478		9083	
3419	PSB-2	6479		9084	
3420		6480		9085	
3421		6481		9086	
3422		6482		9087	
3423		6483		9088	SA-3
3424		6484		9089	
3425		6485		9090	
6447		6486		9091	
6448		6487		9092	
6449		6488		9093	
6450		6489		9094	
6451		6490		9095	
6452		6491		9096	
6453		6492	PSB-2	9097	
6454		6493		9098	
6455		6494		9099	
6456		6495			
6457		6496			
6458		6497			
6459	PSB-2	6498			
6460		6499			
6461		6500			
6462		6501			
6463		6502			
6464		6503			
6465		6504			
6466		6505			
6467		6506			
6468		6507			
6469		6508			
6470		6509			
6471		6510			
6472					

DIESEL RAIL MOTOR CARS

Service	Builder	No. of Units	Previous		New	
			Class	Road Nos.	Class	Road Nos.
Passenger	Budd	8	DD-1	6510 To 6517	DC-1	1900 To 1907
		4	-	-	•DC-2	1908 To 1911
		2	DD-2	6550, 6551	DC-3	1950, 1951
		2	-	-	•DC-4	1960, 1961

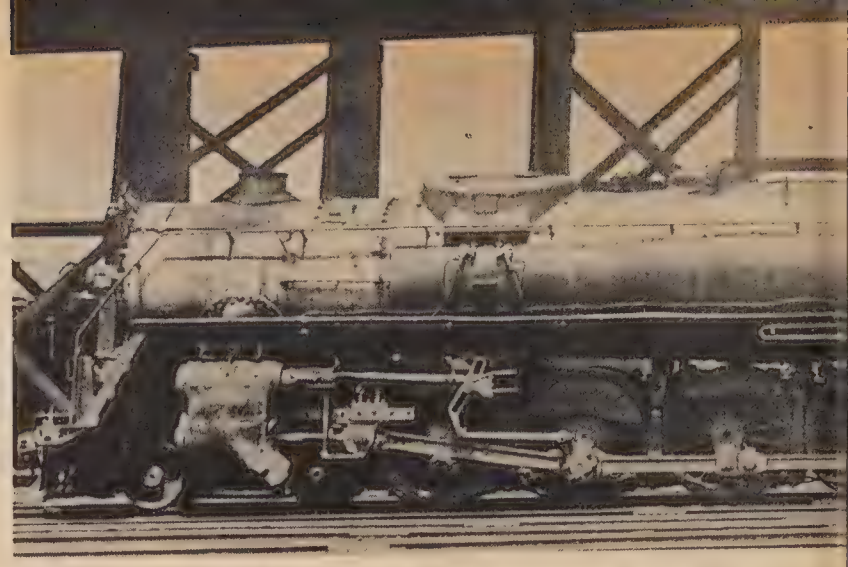
• As Built

GASOLINE LOCOMOTIVE

Service	Builder	No. of Units	Previous		New	
			Class	Road Nos.	Class	Road Nos.
Switcher	Plymouth Loco. Works	1	CC	25	SR-1	8900

Steam Locomotives

Class	No. of Locos.	New Numbers
P-7, P-7a, P-7b, P-7c, P-7d, P-7e	17	100 - 116
P-6a	3	150 - 152
E-27ca, E-27da	28	200 - 227
Q-3, Q-3t	97	300 - 396
Q-4, Q-4a, Q-4b, Q-4c	84	40C - 483
S-1, S-1a, S-1b, S-1c	39	500 - 538
EM-1	30	650 - 679
T-3, T-3a, T-3b, T-3c, T-3t	35	700 - 734
T-4, T-4a	8	750 - 757
L-1a	23	800 - 822
L-2, L-2a, L-2b, L-2c	72	823 - 894
L-4	3	895 - 897
L-3	5	900 - 904



B&O's 5655, ex-B&M, waiting at coal tipple, Willard, Ohio.

Class	Number New	Number Previous	Class	Number New	Number Previous	Class	Number New	Number Previous	Class	Number New	Number Previous
	100	5300		220	2865		332	4533		372	4574
P-7	101	5307		221	2874		333	4534		373	4576
	102	5313	E-27CA	222	2881		334	4535		374	4577
P-7A	103	5310		223	2890		335	4536		375	4578
P-7B	104	5306		224	2901		336	4537		376	4579
	105	5305		225	2908		337	4539		377	4580
P-7C	106	5308	E-27DA	226	2678		338	4540		378	4581
	107	5309		227	2695		339	4541		379	4582
	108	5318		300	4500		340	4542		380	4583
	109	5301		301	4501		341	4543		381	4584
P-7D	110	5303		302	4502		342	4544		382	4585
	111	5304	Q-3	303	4503		343	4545	Q-3	383	4586
	112	5312		304	4504		344	4546		384	4587
P-7E	113	5314		305	4505		345	4547		385	4588
	114	5316		306	4506		346	4548		386	4589
	115	5317		307	4507		347	4549		387	4590
	116	5319	Q-3T	308	4508		348	4550		388	4591
	150	5231		309	4509		349	4551		389	4592
P-6A	151	5237		310	4510		350	4552		390	4593
	152	5241		311	4511		351	4553		391	4594
	200	2721		312	4512		352	4554		392	4595
	201	2727		313	4513	Q-3	353	4555		393	4596
	202	2750		314	4514		354	4556		394	4597
	203	2751		315	4515		355	4557		395	4598
	204	2759		316	4516		356	4558		396	4599
	205	2761		317	4517		357	4559		400	4403
	206	2783		318	4518		358	4560		401	4404
	207	2784		319	4519		359	4561		402	4405
	208	2795		320	4520		360	4562		403	4406
E-27CA	209	2796	Q-3	321	4522		361	4563		404	4408
	210	2807		322	4523		362	4564		405	4409
	211	2810		323	4524		363	4565		406	4411
	212	2818		324	4525		364	4566	Q-4	407	4412
	213	2819		325	4526		365	4567		408	4415
	214	2822		326	4527		366	4568		409	4417
	215	2831		327	4528		367	4569		410	4418
	216	2835		328	4529		368	4570		411	4420
	217	2840		329	4530		369	4571		412	4421
	218	2848		330	4531		370	4572		413	4422
	219	2864		331	4532		371	4573		414	4424

Class	Number New	Number Previous	Class	Number New	Number Previous	Class	Number New	Number Previous	Class	Number New	Number Previous
	415	4425		455	4483		511	6134		662	7612
	416	4426		456	4486		512	6137		663	7613
	417	4429		457	4487		513	6142		664	7614
	418	4430		458	4488		514	6145		665	7615
	419	4431		459	4489	S-1	515	6147		666	7616
	420	4433		460	4490		516	6150		667	7617
Q-4	421	4434		461	4491		517	6152		668	7618
	422	4435		462	4492		518	6157		669	7619
	423	4438		463	4493		519	6159	EM-1	670	7620
	424	4439		464	4495	S-1c	520	6168		671	7621
	425	4440		465	4496	S-1	521	6172		672	7622
	426	4441		466	4600		522	6174		673	7623
	427	4443		467	4601		523	6175		674	7624
Q-4a	428	4447		468	4602		524	6177		675	7625
Q-4	429	4448	Q-4B	469	4603		525	6178		676	7626
Q-4a	430	4449		470	4604		526	6185		677	7627
	431	4450		471	4605		527	6187		678	7628
	432	4452		472	4608		528	6190		679	7629
	433	4453		473	4609		529	6197		700	5555
	434	4454		474	4610	S-1A	530	6199	T-3	701	5557
	435	4455		475	4613		531	6200		702	5558
	436	4456		476	4619		532	6201		703	5561
	437	4457		477	4620		533	6202	T-3T	704	5562
	438	4458		478	4623		534	6207	T-3	705	5563
	439	4460		479	4626		535	6208	T-3A	706	5564
	440	4462		480	4629		536	6217		707	5565
	441	4463		481	4630		537	6219	T-3B	708	5566
	442	4464		482	4633	S-1B	538	6222		709	5567
Q-4B	443	4466		483	4634		650	7600		710	5568
	444	4467	S-1C	500	6105		651	7601	T-3T	711	5569
	445	4468		501	6106		652	7602		712	5570
	446	4470		502	6113		653	7603		713	5571
	447	4471		503	6114		654	7604		714	5572
	448	4472		504	6115	EM-1	655	7605		715	5573
	449	4473		505	6117		656	7606		716	5574
	450	4476	S-1	506	6119		657	7607	T-3B	717	5575
	451	4478		507	6120		658	7608		718	5576
	452	4479		508	6122		659	7609		719	5577
	453	4480		509	6131		660	7610		720	5578
Q-4C	454	4482		510	6132		661	7611		721	5579

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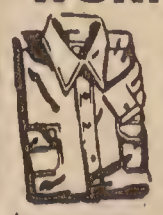

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You incur no obligation in sending for this instructive book. It may be the means of saving you years of untold misery. Write today to The Ball Clinic, Dept. 16, Excelsior Springs, Missouri.

Class	Number New	Number Previous
T-3B	722	5580
	723	5581
T-3T	724	5583
T-3B	725	5584
	726	5585
	727	5586
	728	5587
	729	5588
T-3C	730	5589
	731	5590
	732	5591
	733	5592
	734	5593
	750	5650
	751	5651
T-4	752	5652
	753	5654
	754	5657
	755	5658
T-4A	756	5661
	757	5662
	800	1500
	801	1501
	802	1502
	803	1503
	804	1504
	805	1505
	806	1506
	807	1509
	808	1508
L-1A	809	1039
	810	1511
	811	1512
	812	1045
	813	1048
	814	1515
	815	1516
	816	1517
	817	1073
	818	1519

Class	Number New	Number Previous
	819	1520
L-1A	820	1521
	821	1522
	822	1084
L-2B	823	1602
	824	1603
L-2	825	1604
L-2B	826	1606
L-2	827	1609
L-2C	828	1610
L-2	829	1611
	830	1613
L-2C	831	1614
	832	1615
	833	1616
	834	1617
L-2	835	1619
	836	1620
	837	1621
	838	1622
L-2C	839	1623
L-2	840	1625
	841	1626
L-2C	842	1627
	843	1628
	844	1630
	845	1631
L-2	846	1632
	847	1633
	848	1634
L-2C	849	1635
	850	1636
	851	1637
L-2	852	1640
	853	1641
	854	1642
L-2A	855	1643
L-2	856	1645
L-2B	857	1646
	858	1647

Class	Number New	Number Previous
	859	1648
L-2B	860	1649
	861	1650
L-2	862	1651
	863	1652
L-2B	864	1653
	865	1654
	866	1655
L-2	867	1656
	868	1658
	869	1659
	870	1661
	871	1665
	872	1666
	873	1667
	874	1669
	875	1670
	876	1672
	877	1673
	878	1674
L-2B	879	1675
	880	1676
	881	1677
	882	1678
	883	1679
	884	1680
	885	1682
	886	1684
	887	1685
	888	1689
	889	1691
L-2A	890	1692
L-2B	891	1694
	892	1695
L-2A	893	1696
L-2B	894	1697
	895	1750
L-4	896	1752
	897	1753
L-3	900	1700

Class	Number New	Number Previous
	901	1701
L-3	902	1702
	903	1703
	904	1704

Class	Number New	Number Previous
	1039	809
	1045	812
	1048	813
	1073	817
	1084	822
	1500	800
	1501	801
	1502	802
	1503	803
	1504	804
L-1A	1505	805
	1506	806
	1508	808
	1509	807
	1511	810
	1512	811
	1515	814
	1516	815
	1517	816
	1519	818
	1520	819
	1521	820
	1522	821
L-2B	1602	823
	1603	824
L-2	1604	825
L-2B	1606	826
L-2	1609	827
L-2C	1610	828
	1611	829
L-2	1613	830
L-2C	1614	831
	1615	832
	1616	833
	1617	834
L-2	1619	835
	1620	836
	1621	837
	1622	838
L-2C	1623	839
	1625	840
L-2	1626	841
L-2C	1627	842
	1628	843
L-2	1630	844

Class	Number New	Number Previous
	1631	845
	1632	846
L-2	1633	847
	1634	848
L-2C	1635	849
	1636	850
	1637	851
L-2	1640	852
	1641	853
	1642	854
L-2A	1643	855
L-2	1645	856
	1646	857
	1647	858
L-2B	1648	859
	1649	860
L-2	1651	862
	1652	863
	1653	864
L-2B	1654	865
	1655	866
L-2	1656	867
	1658	868
	1659	869
	1661	870
	1665	871
	1666	872
	1667	873
	1669	874
	1670	875
	1672	876
	1673	877
L-2B	1674	878
	1675	879
	1676	880
	1677	881
	1678	882
	1679	883
	1680	884
	1682	885
	1684	886
	1685	887
	1689	888

Class	Number Previous	Number New
	1691	889
L-2A	1692	890
L-2B	1694	891
	1695	892
L-2A	1696	893
L-2B	1697	894
	1700	900
L-3	1701	901
	1702	902
	1703	903
	1704	904
	1750	895
L-4	1752	896
	1753	897
E-27DA	2678	226
	2695	227
	2721	200
	2727	201
	2750	202
	2751	203
	2759	204
	2761	205
	2783	206
	2784	207
	2795	208
	2796	209
	2807	210
	2810	211
E-27CA	2818	212
	2819	213
	2822	214
	2831	215
	2835	216
	2840	217
	2848	218
	2864	219
	2865	220
	2874	221
	2881	222
	2890	223
	2901	224
	2908	225
Q-4	4403	400
	4404	401

Class	Number Previous	Number New
	4405	402
	4406	403
	4408	404
	4409	405
	4411	406
	4412	407
	4415	408
	4417	409
	4418	410
	4420	411
	4421	412
	4422	413
Q-4	4424	414
	4425	415
	4426	416
	4429	417
	4430	418
	4431	419
	4433	420
	4434	421
	4435	422
	4438	423
	4439	424
	4440	425
	4441	426
	4443	427
Q-4A	4447	428
Q-4	4448	429
Q-4A	4449	430
	4450	431
	4452	432
	4453	433
	4454	434
	4455	435
	4456	436
	4457	437
Q-4B	4458	438
	4460	439
	4462	440
	4463	441
	4464	442
	4466	443
	4467	444
	4468	445

Class	Number Previous	Number New
	4470	446
	4471	447
	4472	448
Q-4B	4473	449
	4476	450
	4478	451
	4479	452
	4480	453
Q-4C	4482	454
	4483	455
	4486	456
	4487	457
	4488	458
	4489	459
	4490	460
Q-4B	4491	461
	4492	462
	4493	463
	4495	464
	4496	465
	4500	300
Q-3	4501	301
	4502	302

Class	Number Previous	Number New
	4525	324
	4526	325
	4527	326
	4528	327
	4529	328
	4530	329
	4531	330
	4532	331
	4533	332
	4534	333
	4535	334
Q-3	4536	335
	4537	336
	4539	337
	4540	338
	4541	339
	4542	340
	4543	341
	4544	342
	4545	343
	4546	344
	4547	345
	4548	346

Class	Number Previous	Number New
	4570	368
	4571	369
	4572	370
	4573	371
	4574	372
	4576	373
	4577	374
	4578	375
	4579	376
	4580	377
	4581	378
	4582	379
	4583	380
Q-3	4584	381
	4585	382
	4586	383
	4587	384
	4588	385
	4589	386
	4590	387
	4591	388
	4592	389
	4593	390

Class	Number Previous	Number New
Q-3	4503	303
	4504	304
	4505	305
	4506	306
	4507	307
Q-3T	4508	308
	4509	309
	4510	310
	4511	311
	4512	312
	4513	313
	4514	314
	4515	315
Q-3	4516	316
	4517	317
	4518	318
	4519	319
	4520	320
	4522	321
	4523	322
	4524	323

Class	Number Previous	Number New
	4549	347
	4550	348
	4551	349
	4552	350
	4553	351
	4554	352
	4555	353
	4556	354
Q-3	4557	355
	4558	356
	4559	357
	4560	358
	4561	359
	4562	360
	4563	361
	4564	362
	4565	363
	4566	364
	4567	365
	4568	366
	4569	367

Class	Number Previous	Number New
	4594	391
	4595	392
Q-3	4596	393
	4597	394
	4598	395
	4599	396
	4600	466
	4601	467
	4602	468
	4603	469
	4604	470
	4605	471
	4608	472
Q-4B	4609	473
	4610	474
	4613	475
	4619	476
	4620	477
	4623	478
	4626	479
	4629	480

Class	Number Previous	Number New
	5555	700
	5557	701
T-3	5558	702
	5561	703
T-3T	5562	704
T-3	5563	705
T-3A	5564	706
	5565	707
T-3B	5566	708
	5567	709
	5568	710
T-3T	5569	711
	5570	712
	5571	713
	5572	714
T-3B	5573	715
	5574	716
	5575	717
	5576	718
	5577	719
	5578	720

Class	Number Previous	Number New
	5579	721
T-3B	5580	722
	5581	723
T-3T	5583	724
T-3B	5584	725
	5585	726
	5586	727
	5587	728
	5588	729
T-3C	5589	730
	5590	731
	5591	732
	5592	733
	5593	734
	5650	750
	5651	751
T-4	5652	752
	5654	753
	5657	754
	5658	755
T-4A	5661	756
	5662	757
S-1C	6105	500

Class	Number Previous	Number New
	6106	501
	6113	502
	6114	503
	6115	504
	6117	505
	6119	506
	6120	507
	6122	508
S-1	6131	509
	6132	510
	6134	511
	6137	512
	6142	513
	6145	514
	6147	515
	6150	516
	6152	517
	6157	518
	6159	519
S-1C	6168	520
S-1	6172	521
	6174	522
S-1A	6175	523

Class	Number Previous	Number New
	6177	524
	6178	525
	6185	526
	6187	527
	6190	528
	6197	529
S-1A	6199	530
	6200	531
	6201	532
	6202	533
	6207	534
	6208	535
	6217	536
	6219	537
S-1B	6222	538
	7600	650
	7601	651
	7602	652
	7603	653
EM-1	7604	654
	7605	655
	7606	656
	7607	657

Class	Number Previous	Number New
	7608	658
	7609	659
	7610	660
	7611	661
EM-1	7612	662
	7613	663
	7614	664
	7615	665
	7616	666
	7617	667
	7618	668
	7619	669
	7620	670
	7621	671
	7622	672
	7623	673
	7624	674
	7625	675
	7626	676
	7627	677
	7628	678
	7629	679

James P. Gallagher, 1 E. Highland Rd., Baltimore, Md.

The B&O station platform at Harper's Ferry, West Virginia, is mostly on the Potomac River bridge. Here we see maintenance men installing new light bulbs and painting the reflector surface white and the outside black, a routine job.

Remember the open cars that used to run in summertime? This nostalgic shot adorns the cover of Wm. Gordon's new book, *Manitou Beach Trolley Days*.

TRANSIT TOPICS

by STEVE MAGUIRE

BULLETIN 100, *Electric Railways of Iowa,* is not only a complete coverage in 146 pages of historical facts and pix on all trolley and interurban lines the state ever had but is also the best railfan booklet of any kind we have ever seen. Published by Central Electric Railfans Association, Box 503, Chicago 90, Ill., it sells at $6 a copy.

Juicefans no longer need to hunt up pictures of Iowa electric lines. This bulletin is richly filled with the cream of dozens of collections. The photos, maps, rosters, scale drawings, and even four 8¼x11 color action shots of interurbans, in addition to detailed text matter, make it the most comprehensive publication of its kind. You had better get your copy before it is too late, because CERA bulletins are soon out of print and bring top prices from collectors. They're all well illustrated.

CERA is now compiling the full story of Indiana's electric lines. It asks cooperation of fans who can supply little-known facts or photos, especially shots of small-city trolleys. If you have any such material, do *not* ship it immediately. Instead, write to CERA for a blank form to be filled in briefly telling what material you have available. This avoids duplications and saves time, postage, and express charges.

WILLIAM GORDON has already authored fine histories of the Rochester & Sodus Bay and the Rochester & Eastern interurban lines. Now he brings out an excellent account of the 35 years of the Rochester & Manitou Beach.

Manitou Beach Trolley Days tells of the line that served a beach and amusement park on the southern shore of Lake Ontario. Of special interest was the series of trestles over bays of the lake, unlikely to be duplicated nowadays. Mr. Gordon, 811 Garson Ave., Rochester, N. Y., is taking orders for this 111-page booklet at $2.25 a copy.

WESTERN juicefans especially will welcome *The Los Angeles & Redondo Railway*, by Ira Sweet, an 84-page history of the line that became part of Mr. Sweet's authoritative works, complete with maps, photos, and scale drawings. Copies are available at $2 each from the author, 1416 South Westmorland Avenue, Los Angeles, Calif., as long as the supply of this new book lasts.

Stephen D. Maguire

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Chausee d'Antin station and car interic on modernized Paris Metro (subway)

AUSTRALIA is offering a twenty page pamphlet on the Brisbane tramwa system titled *Destination Valley.* Illu trations include all types of trams fro Brill open cars built in the U.S. half century ago to present-day model Copies can be had from Traction Pub lications, 61 Ivanhoe Grove, Chadston S.E. 10, Victoria, Australia, at 50 cen apiece.

PARIS "Metro," the French subwa is rapidly being transformed into a attractive and highly efficient trans route. Such revolutionary things as c luxe extra-fare cars that are spraye with perfume. Air-purifying, antisept sprays sent out from the rear of som trains leave stations scented with world famed French perfumes. Such luxuri make underground travel a bit mo pleasant. They accentuate our desi to visit and explore the French capit and its *Metro.*

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ARGENTINE juicefan Arnold Irvi Reid, of Buenos Aires, writes of pr vincial tramways operating in his cou

Birney car passes a bus on a narrow street in Parana, one of Argentina's provincial capitals, where the city's transportation system, like other utilities, is nationalized.
Arnold Reid, Defensa 665, Buenos Aires, R. 46, Argentina

try. In Parana, capital of the province of Entre Rios, the Birney-car system serves three routes, with double-pole cars numbered from 1 to 14. They were nationalized some time ago, along with other public services.

The nearby city of Santa Fe has about 60 cars, numbered from 1 to 64, in service on six lines. Most are British-built, some were built in Buenos Aires, and one line car, No. 233, appears to be a Brill. Many of the original deck-type roofs may still be seen, but some cars have been converted to arch type. Argentina's only trailer cars run in Santa Fe. There are four—Nos. 102, 105, 197, and 10— used in early morning tripper service.

NYCTA is going into the antique business. It plans to sell 47 subway and elevated cars built between 1888 and 1906. Not all the veterans are to be retired, however. Over $50,000 will be spent in refurbishing 75 survivors of the Third Avenue El. Now 40 years old, these steel-framed, wooden-bodied cars will see service on the BMT Myrtle Avenue line in Brooklyn.

"WHAT was the longest run made by a standard single-truck Birney car?" asks Felix Reifschneider, Frostproof, Fla. "I nominate the Treston, Bristol & Philadelphia cars between Morrisville and Torresdale, Pa. Birney cars made this run in 85 minutes, for an average schedule speed of 12½ miles an hour. This relatively high speed was due to about six miles of private right-of-way between Tullytown and Morrisville, on which there was hardly one regular stop for passengers."

"PLANS for a Boston-New York electric line were filed in October, 1906, the month of *Railroad Magazine's* birth, but they failed because the promoters could not get a Boston-Providence route," writes Roger Breslow, 89 Dexterdale Rd., Providence, R. I. "However, on Aug. 17, 1914, through service was actually started between New York and Boston. The trip took two days, including a night spent in New London."

PLIGHT of the Portland Traction's interurban lines has worsened steadily since the railway had to be cut back from the downtown interurban terminal to First and Hawthorne, due to elimination of track on rebuilt approaches to the Hawthorne bridge.

George Chopé, of Portland, Ore., tells us that cutting the line, even with bus connections, caused a loss of half the regular passenger traffic. Since then, the corporation owning the bus and interurban lines has separated the operations. The buses are now being run by a subsidiary known as Rose City Transit Co., while the interurbans are operated as Portland Traction Co. property. Both corporations have the same officials in different positions and both are owned by a San Francisco outfit known as Portland Transit Co.

At first, the regular bus connection was dropped and transfers were given

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San Francisco Municipal Ry. car at Twin Peaks Tunnel.
Stephen D. Maguire, 802 10th Ave., Belmar, N. J.

Four-car train with trolley poles operating on the Pennsylvania-Reading Seashore Lines at Gloucester, N. J., on the Camden-Millville run, in 1938. It used third rail partway.
Steve Maguire

to passing buses of Rose City Transit. Next, the RCT buses stopped accepting transfers from the interurban car riders, who then had to pay an additional fare to cross the river. Thus PCT has kept up constant pressure to cut the number of trolley riders so as to be able to offer a good excuse for abandoning passenger service and concentrate on the more remunerative diesel frieght traffic. After a court fight, the Public Utility Commission has ordered the downtown bus service to be restored, but as we go to press it hasn't yet been done.

Worse yet, maintenance is being neglected. The cars appear shabby and badly in need of paint. There are only 12 left in operating condition.

Wilamette Valley Electric Railroad Association, a group of fans in the Portland area, had hoped to add to their museum collection the last big wooden interurban, No. 1049, built by Kuhlman in 1911 for the Mt. Hood Railway. They had been promised the car when and if the PTC decided to scrap it. But on March 18th, without any warning to the club, the car was stripped and burned.

As a substitute, PTC has offered the club No. 1455, a single-trucked broom-sweeper, built in 1899 by McGuire-Cummings Co.

MONTREAL's "golden chariot" streetcars are still running, despite insidious threats to replace them with buses, reports E. T. Bieber, 622 Brouillard St., Drummondsville, Que., Canada.

ELECTRIC TRACTION, the monthly publication of the Australian Electric Traction Assn., 61 Ivanhoe Grove, Chadstone, S.E. 10, Victoria, Australia, carried this vignette: Tramcar No. 1977, at Sydney, was enroute on the Watson Bay line when it struck a piece of hot trolley wire that had fallen in its path. The result was a fire in which the roof, interior, and one end of the car were badly damaged. After the fire was extinguished one could plainly see unburned on the side of the car the ad for a show, "The Lady's Not For Burning!"

LONDON & Port Stanley interurban line ended passenger service suddenly the other day, but electric freight and a baggage-express car continue operating, at least until diesel equipment arrives to take over, we are told by Harold McMann, Jr., Toronto, Canada.

EVER hear of a song dedicated to a subway? Edward A. Anderson, 15 Lansing Ave., Worcester, Mass., writes us that Coral Records have just issued a disc entitled "The MTA, The Boston Subway Song," available in 78 and 45 rpm speeds. It's a ballad sung by Will Holt about a fellow named Charlie who can't get off a subway train because he hasn't got another nickel to buy a five-cent transfer.

Mr. Anderson says it is the first recording he has ever heard about electric railways, and asks if any reader knows of others.

OUR statement in a past issue that the abandonment of the last cable car line in Dunedin, New Zealand, left San Francisco with the only cable streetcar line still in operation has brought denials from Fred York of Birmingham, England, and F. F. Clough of Upper Colwyn Bay, Wales. Both men call our attention to the Great Orme Tramway line at Llandudno, Wales.

Mr. Clough points out that this line is a cable road with two sections, one of which has the cable in a covered duct and *looks* like a tramway. It climbs 650 feet up the Great Orme's Head at a steep gradient. The two cars are fixed to the cable, one going up and the other down, passing halfway.

Each of the cars has a trolley pole that makes contact with an overhead wire and is used to transmit starting and stopping signals from the conductor on the car to the winding engine. It is a prosperous line and is owned by the municipality, which runs it in summer when large numbers of sightseers make the trip up the mountain.

Fred York also mentions two other cable lines, Penang Hill Ry. in Malaya and the Peak Tramway Co. of Hong Kong. However, we still do not feel that any of these roads can be classed as regular cable streetcar lines. They are all inclined roads with a counterbalance operation of the funicular type. In no instance are the cars ever free from the cable.

NEW ZEALAND'S trolley lines have no future, laments Ralph Forty, SK2, USN Battalion Base Unit, Fort Hueneme, Calif.,

The last Auckland tramway route, Onehunga, ceased operation December 29, 1956, being replaced by a bus line. Wellington, New Zealand's biggest city, will lose its remaining streetcars as soon as a large order for trolley buses is received from England. The Wellington tram lines may not last through 1957, and their demise will mark the end of streetcars in New Zealand.

A TRANSIT system that comfortably whisks passengers at 40 to 50 miles per hour on separate rights-of-way between suburban and city stops is essential for relieving traffic-choked metropolitan areas, Chicago municipal leaders were told by Earl E. Kearns, a General Electric transportation expert. Addressing a transit seminar group at Northwestern University, Mr. Kearns said: "Public transit with high terminal-to-terminal speed, convenience, and attractive service ranks among the foremost of our national needs."

"Emphasizing that "the objective of urban transit is to move people and goods rather than just vehicles," Kearns said that one double-track rapid-transit route can transport as many seated passengers as five eight-lane freeways. He pointed to Chicago's Congress Street expressway, where rapid-transit tracks are being laid along a center mall, as an example of the coordination of street and rail transportation.

Kearns said the built-in transit system right-of-way is adding less than 10 per cent to the cost of the project while the carrying capacity is increased five times, providing rapid-transit right-of-way at about 2 percent of the cost of new subways.

CHICAGO's soon-to-be-abandoned Clark-Wentworth streetcar route may be the longest city trolley line now in operation, we are told by Rodger Darling, Maywood, Ill., and W. P. Grant, Oxford, Miss., both of whom claim it to be at least one mile longer than Philadelphia's longest line, Route 23, discussed in these pages a short time ago.

Mr. Grant also points out that the Xochimilco line at Mexico City is even longer. But that is hardly a city route, running as it does over open country to a suburban town more than 15 miles distant.

WATERLOO RAILROAD has converted its freight operation to all-diesel, report Jim Levis and Elmer Carr, of the NRHS, Iowa Chapter. They tell us that despite dieselization of the main line, the Cedar Falls streetcar still operates Mondays to Fridays with power from the municipal light plant at Cedar Falls.

HOW do outsiders view the New York subway system? Listen to London transit expert S. V. Madden, who recently braved the underground railway on a solo investigation.

His remarks, as recorded in the NYCTA *Transit* monthly, show restraint and diplomacy. He reports only obvious facts such as the subway stations being "still decorated in the lavatory-tile decor so beloved of our grandfathers." Also noted are the rows of awkward straps for standees, and the rush hour crowds acting like "sizable shock absorbers."

A reply written by Joe Harrington reminded riders that while the London system is only 11 miles longer than New York's, it has more than twice the number of employes, that rolling canteens serve hot tea to London motormen, and that the London subways close down in early morning hours, when the cleaners take over and are able to remove dirt and trash from the stations and tracks.

NEW YORK'S subways are not entirely without modern developments. A NYCTA stationmaster, Walter McGinnis, is credited with an invention that will save the city $100,000 yearly in costs. While emptying his wife's vacuum cleaner, he noticed that it had picked up some of his wife's bobby pins. The thought came to him that it might be possible to use the same means to pick up subway tokens from the turnstiles and bring them directly into the change booths. It would save the time of many employes who do nothing but empty turnstiles, and passengers would get quicker service at change booth windows.

The invention was recently tried out, successfully, in Jay Street station, Brooklyn. Tokens dropped into the turnstile are pulled to the booth by a suction pump, via a steel tube, just as Mrs. McGinnis' bobby pins were sucked into the vacuum cleaner.

THE FUTURE of the Chicago, Aurora & Elgin is uncertain at this writing. Actually, the line has permission to cease passenger service until such time as a through route is provided for its cars on the Congress Street Expressway, now under construction. Meanwhile its equipment is supposed to be retained and held ready to resume the service, when and if the through route is provided.

If passenger service is ever abandoned permanently, you can be sure that an application to quit freight-hauling also will follow shortly afterward. The road has only a scant freight business. ●

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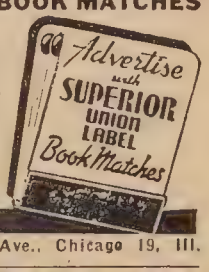

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SMOKE ORDERS

by William F. Knapke

YOU WOULDN'T DARE to run a train that way today, not even if you were working for a company that still uses Eight-wheelers. It would be too big a gamble, with Death holding the stakes.

But long ago, in the wild and adventurous era of railroading, when all the world was young, you did plenty of things you wouldn't do now. Likely as not, if you were running a train, you sometimes ran on smoke orders. That is to say, you kept on going until you saw the smoke of an opposing train coming toward you *on the same rails.* Then, and only then, you ducked into a siding—if you could. Running on smoke orders was exciting and it generally got you over the line with a minimum of delay.

Let's see how it worked. Suppose you were a freight conductor. You stood on the head end of a little train, balancing yourself with the ease of long practice, as it clattered over the dirt-ballasted light rails of a single-track road. You were trying, so far without success, to peer through the dense smoke that erupted from the diamond stack, because you had to meet another rattler and you wanted to know how far you could push ahead and still be safe.

Your engineer closed the throttle, gave a blast from the Martin box whistle, and looked back at you inquiringly. His handle-bar mustache shot out at right angles to his face as a sudden gust of wind blew the smoke aside. At that instant you could see, miles away but unmistakable, a smoke plume that told you where the other train was.

You thought: *Yep, we can make the next siding and steal a station on the brothers.* You grinned at your hogger and gave him a highball. He lifted his hand slightly in a token of assent and pulled the throttle clear out as the fireman slid from his seat and began bailing in the real estate. Your head brakeman sat down, dangling his legs over the side of the car, while the rear brakeman dove inside the cupola and you began walking back over the car tops.

That was how you railroaded in the old days when your main rule was "Get over the road! Keep out of trouble if you can, but get over the road!"

That rule often caused a lot of grief. It was a procedure that the brass collars did not approve of *when a mistake occurred;* but if you ran on smoke orders and got away with it, you were doing fin

Many times you or some brothe did *not* get away with it, but wha of that? You could always find an other job on some other road.

Why take chances? Well, yo were proud of your ability to ou figure the next guy. Besides, those days, most of the freight crew were pooled or based on the prin ciple of first in, first out. The earli you arrived at your terminal, pl running around a couple of th brothers, the sooner you'd be out c the road again. All of which adde up to more miles and more dollar

One time when the crew *didn* get away with "smoking" was c the old Jacksonville South-easter (now part of the Burlington Route in the days of "two-legged" tra orders. An order was issued first one train and then to the opposin train, which created a swell chan for an error.

In this case the dispatcher p out an order to a southbound extr to meet a northbound extra at Ha bin, Illinois. Later he issued the sam order to the northbound extra bu by mistake, made it read "Galva Now Harbin is five miles north Galva, so if the two crews ha actually obeyed their orders the

would have "met" five miles apart. However, each crew thought they'd steal a match on the other crew, with the result that they staged a gosh-awful "cornfield meet" (head-on collision). Had either of the crews stayed at their designated meeting point, nothing worse than a lengthy delay would have happened.

I recall a case on the Southern Pacific. One night a conductor was running a work train in the Imperial Valley of California. Arriving at Heber, he saw that, according to his timecard, he could not make El Centro in time for a certain passenger train, but he knew that the said streak of varnish invariably was delayed there by heavy express shipments. So he told his hogger that he could make it easy before they were ready to leave.

It was still pitch dark when the work train headed in at El Centro. Standing on the station platform was Charlie Donnatin, assistant superintendent. Charlie looked at the passenger train's brakeman, grinned, and said, "I've seen a lot of 'em smoke it in by daylight but this is the first case I've seen at night."

From Rockwood to Brawley on the Espee's Imperial Valley branch are quite a few miles. If a freight which I skippered was ready to leave Brawley about the same time that No. 35, a three-car passenger, was due out of Rockwood, it meant a delay for us of forty minutes or so. But there was a short spur at Hovely, about midway between, and as it would hold the short passenger train we got in the habit of meeting it there.

This meet became so regular that 35's crew would watch for us and head in when they saw us coming. One day the trainmaster, W. H. Jones, and the assistant super, Larry G. Sloan, caught our crummy as we pulled out of Brawley. They climbed into the cupola and looked at their timetables and watches. I surreptitiously kept an eye on them and appeared to be very busy with my reports.

No. 35 was a bit early that day and had pulled into the siding, so we sailed by at fifty per. Sloan came down from the cupola, leaned over my shoulder, and asked quietly:

"Did you have anything on 35?"

"No," I replied, trying to be casual. "We save about forty minutes on the stock train by meeting them here, and 35's crew always watches for us."

"Well," said Sloan, still keeping his voice down, "you'd better be careful. Somebody's liable to be on here who'll give you hell."

Considering that Sloan was next to the highest ranking official on the division, his attitude was unusual, to say the least.

There was another neat stunt the brothers would pull, when they had an opportunity. One of us might be on short time ahead of some passenger train. Our hogger would catch a glimpse of marker lights ahead and promptly switch off his headlight. The train in advance would then take siding and we would dash past and go to the next siding to let the varnish by. Of course, we did it because that was quicker than "sawing" the *pasajero* out. Or could it be to steal a station on our brothers?

That little job of pilfering didn't always work, especially if the skipper on the train ahead was wide awake and onto his job. When he saw your headlight disappear between stations, he'd know what you intended to pull. He'd tell his rear brakeman:

"Those so-and-sos are figuring on running around us. When we head in, leave your markers red."

Then he'd beat it over the tops and have his hogger pull down to foul the main line. Our own engineer, of course, would not pass those red markers. He'd stop back far enough to head in behind the other train, which would then tear out for the next siding to avoid a saw-by. We had met one skipper who was wise. You sure had to keep on your toes all the time.

But at that, it was a great game and those of us who are now retired from active railroading reflect on its passing with nostalgic regret. Today, as I said, there are no more trains running on smoke orders. ●

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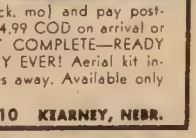

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MAIL CAR

(Continued from page 11)

James McGuire, Woodland, Me., got nation-wide publicity the other day when the United Press reported that although Jim is 86 he hasn't missed a day's work during 49 years as a Maine Central section man.

A Kansas City Southern hogger, Billy Bryant, is credited with having saved many lives by blasting his whistle to warn the residents of Gans, Okla., that a tornado was approaching—the only tornado warning they received. •

THE STORY is told how William Mahone, president of the Norfolk & Petersburg, routed the Federal troops from Norfolk, Va., in the Civil War. The Navy Yard there was in Federal hands but Rebels held the rest of the town. Mahone spread a report that a Confederate force was on its way to seize the Navy Yard. That night he kept a locomotive running back and forth in the railyard, with whistle blowing and bell ringing in such so as to give the impression that train after train of Confederate troops was arriving. Actually, there were very few Rebel soldiers within 100 miles of the city.

Gen. William Mahone

His ruse worked. The Unionists, rather than risk capture, abandoned the Navy Yard, leaving valuable war materials.

Later, Mahone entered the Confederate Army and became a major general. After the war he returned to the N&P. He was a small man, five feet, five inches tall, weighing about 100 pounds, but what he lacked in size he made up in energy. Nobody doubted that he was boss. He consolidated the N&P with other roads to form the Norfolk & Western system. •

THE LITTLE PIKES I worked on down here in Florida had no telegraphers," recalls E. A. ("Frog") Smith, 260 Poe St., Fort Myers. "Our orders were usually oral and profane; our signal was often a wave of a cotton-picker's straw hat.

"I began railroading at age 15 as a waterboy on the Birmingham, Columbus & St. Andrews.

"One day in 1912 thirty men were loading dirt into flatcars. Conductor Sims found a nest of yellowjackets in the cut bank about midway of our six-car work train. A steady stream of them was pouring out of two holes in the nest. Sims devised a plan. While a volunteer held a bottle at one hole, to fill it with the jet-propelled insects, he himself stopped up the other hole w a rag. Suddenly the whole bank cav in. Yellowjackets took possession of c train in nothing flat!

"The engineer left his cab with flying leap and refused to get back so Sims had to move the train. C engine, Ten-wheeler No. 33, had do at the rear of the cab, which Si closed behind him. Then, after eas ahead until the cylinders were ev with the yellowjackets' nest, he set brakes and opened the cylinder coc

"By that time the men were edg around the cars to pick up their shov A blast from the cylinders scattered insects everywhere, giving us all a fr dose of stings.

"In those hot summer days we to noon-hour swims. Everybody but section foreman would strip naked a dive into a clear trackside lake. T boss had to keep his clothes on so to highball the passenger train. C day, while it was running slowly, m and female passengers lining the w dows cheered us in our birthday su That and the yellowjacket battle w my two most embarrassing moments.'"

47 CLASS 1 railroads now of piggyback service, the carry of loaded truck trailers on freight c but this service is spreading so fast t any figures on it are out of date bef they are published.

"Prospects are that all of the 1 Class 1 railroads will be piggyback within the next few years," boasts R Fruehauf, president of a large trai company. "The railroad boxcar is on way to the Smithsonian Institution think piggyback will replace practica every boxcar in the country."

STUB SWITCHES intrigue R. Bru Brown, 7241 Dorset Ave., Louis, Mo. After visiting the Canadi National's narrow-gage Newfoundla line, he writes: "Besides the st switches that readers have mentio on the D&RGW and the White Pass Yukon, there are still many left Newfoundland. The 38-mile Brig branch uses them exclusively in ya and sidings. At Carbonear the wh train is turned around on a wye wh uses stub switches, probably the o such operation in North America.

"Canadian National also has so stub switches on its Montmorency s division, an interurban line forme

Reading 0-6-0 Camelback 1351, Class B7a, on branch at Rockland, Delaware.
Charles A. Elston, R.D. 2, Dowingtown, Pa.

owned by Quebec Railway, Light & Power Co. The St. Paul terminal yards in Quebec has all stub switches and, incidentally, one of the few remaining interurban turntables. At St. Joachim, where the interurban trains turn there is a real rarity, a three-way stub switch in daily use." •

HOBO LORE. "Is it true that hoboes use a secret code in marking freight cars to send messages to fellow vagrants?" asks George R. Monks, Fairfax, Calif.

"No," replies George Milburn, 33 W. 8th St., New York City, a leading authority on hobo lore. "Some feeble-minded hoboes might send messages by boxcar, just as some morons scrawl slogans like 'Support Mental Health' on subway stairs. But it should be obvious that sending word by boxcar is about the slowest and most unreliable mode of communication imaginable, next to tossing a bottle into the sea. (Yardmen, to be sure, chalk railroad symbols on freight cars spotted for a siding, but that is quite different.)

" 'A-No.-1,' self-styled 'America's most famous tramp,' published 'A Key to the Chart of Signs Used by Tramps' in a card-bound book, *Hobo Camp Fire Tales* (Erie, Pa., copyright 1911). There were 11 books in the series, standard stock for news butchers of long ago, but real hoboes took a low view of A-No.-1, maintaining he was a fake.

"Samples of the so-called secret code: # surmounted by a formalized bug, 'The jail here is vermin-infested'; # OK, 'The jail here is sanitary and prisoners are well fed'; # NG: 'The jail here is sanitary but they starve their prisoners.' " •

BRITISH RAILWAYS, which suffered bombing and neglect during World War II, have come back amazingly, especially since the three-and-a-half-billion-dollar modernization program went into effect in 1955. Britain now has 84 long-distance passenger trains making non-stop runs at average speeds of 60 mph or more. A new train, *The Caledonian,* operates five days a week between London and Glasgow, non-stop, 401 miles in 400 minutes.

Restaurant, Pullman, buffet, or cafeteria facilities are available on 775 British trains on week-days, 887 on Saturdays, and 373 on Sundays. Seats may be reserved for 14 cents, regardless of distance, on 2,612 trains.

"The Fraserburgh & St. Combs branch of the British Railways is a family line," reports Joseph Fox, BM/Exn 3, London, WC 1, England. "Its crews know everybody. When a resident of Fraserburgh wants to send a parcel to the other end of the line he hands it to a trainman, stating, 'Give this to my brother Bill at St. Combs.' The trainman, who knows Bill, delivers the parcel."

Two farmers, Peter Gross and David Scales, offer to pay two-thirds of the cost of building a railway station near their homes on a remote moorland near Whitby, England, so that their two young children can go to school by train, reports Isaac Kirkham, 206 Furlong Rd., Tunsta 11, Stoke-on-Trent, England. What finally happened?

"A trim 8-ton diesel locomotive in green livery and bearing the nameplate *Midlander* left a granite quarry near my home on a 130-mile trip by highway trailer to go into service on the world's oldest, surviving, narrow-gage, passenger line, the Talyllyn Railway in North Wales," writes Arthur J. Richards, 21 Briarfield Rd., Tyseley, Birmingham, England. A group known as the Talyllyn Ry. Preservation Society bought the engine and the quarry-line rails for use on the 7½-mile Talyllyn."

Curious footnote to the opening day of Midland Railway service between Hitchin and Bedford, England, 100 years ago: "Children and workhouse inmates were treated to a free ride." •

NARROW-GAGE engine and train pictures (D&RGW and Old South Park Line), with scenic backgrounds, all richly colored and suitable for framing, are available from Otto Kuhler, EZ Ranch, Pine, Colo., at 80 cents (preferably in 2-cent U. S. stamps), postpaid, for a set of five. These pictures are reproductions of watercolors he painted for *Empire,* the *Denver Post* Sunday magazine.

"They will be mailed flat," he writes. "Obviously, I won't get rich on this deal but may please a few fans."

As a young man in Germany, Kuhler built and operated a logging railroad. Later, in America, he joined Alco's staff, designed the B&O's *Royal Blue* and other streamliners and painted several *Railroad Magazine* covers. The bell used on his ranch came from No. 5304, a Pacific that once hauled the *Royal Blue.* •

The man who wouldn't give up

500 MASSED ROCKETS shook Brooklyn Bridge, screamed up into the May evening and showered the city with red and gold.

While behind a darkened window, a big, gaunt man sat and watched, too crippled and painwracked to attend the opening day festivities for the bridge.

This was a pity, for he had built it.

Which means that when money gave out, Chief Engineer Roebling pleaded for more. When disturbing changes of plan had to be made, Roebling fought them through. And when a hundred panicked men were trapped under the East River in a flooded caisson, Roebling saved them.

Spinning the giant steel spiderweb not only exacted 13 years of Roebling's life, from 1870 to 1883, but very early in the game it crippled him forever with the caisson disease.

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PUBLIC SERVICE ADVERTISING

RAILROAD HOBBY CLUB

by Sy Reich

HARLEY L. KELSO, ex-fireman on three roads, is writing a *Railroad Magazine* feature on Pacific-type engines. We think you will like it. As for illustrations, we have more than enough average-good pictures of Pacifics, with and without trains, but we need a few choice shots that are rare, "arty," or rich in human interest. We need only about two or three.

Sy Reich

No matter how excellent a photo may be, it will not reproduce well on our paper unless it is also bold, contrasty, and sharply detailed.

Mr. Kelso's article on "Double-Cab Engines" included some material from Warren D. Stowman, a widely-recognized authority on Camelbacks.

Tweetsie, a narrow-gage train consisting of a steam engine, a tender, and 3 antique coaches, has been moved 50 miles by motor truck from Hickory to Blowing Rock, N. C.

Until 1950, *Tweetsie* ran on the East Tennessee & Western North Carolina. Then a business man bought her and operated her as a tourist enterprise until about two years ago. She next passed into the hands of Gene Autry, cowboy singer and former railroad brass pounder. The train is now owned by Grover C. Robbins, Jr., and associates, who have just completed a two-mile circular track on which she is operating again. This news comes from W. E. Lindau, Thomas Cheeseborough, Oliver Carruth, and Douglas Walker.

Your *Hobby Club* editor said (June issue, page 37): "The Pennsy has 69 classes of diesels now in service. We doubt if any all-time PRR steam roster could show that many classes."

Ivan W. Saunders, editor of *The Locomotive Newsletter,* 216½ Sweetbriar St., Pittsburgh, Pa., reminds us that in 1902, when the Pennsy reclassified its power, it had many more than 69 steam classes.

"I agree with those who say diesels lack variety," he adds. "The blasted things are mass-production models. No railroad designs its own, but buys those designed by the builders—the exact reverse of standard steam practice. In addition, a road must buy the parts made by its diesel manufacturers. No road can make its own, because the parts, like the locomotive itself, are covered by patent rights. But the roads used to make most of their steam parts in their own shops. All in all, steam engines had an individuality that diesels lack."

Okay, Mr. Saunders, diesels *are* mass-produced, but so is practically everything else we buy.

Roy Stevens, 13 Sancroft Drive, Houghton-le-Spring, County Durham, England, writes on behalf of the Talyllyn Railway Preservation Society:

"This Society was formed to ensure the operation of a narrow-gage line in Wales after the owner died six years ago. Except for a permanent staff of five men, the line is now being run entirely by volunteers in their spare time.

"We have some members overseas but need more. Full membership fee, $3 per year; junior membership (unc age 16), $1.50 per year; life membo ship, $45. Further details and a co of our *News Bulletin* will be sent any inquirer."

Corections in our Aug. issue: Pa 20 shows Morton-type train-order si nal, Harp-type switch stand, and Col rado's oldest loco, No. 346, the *Cur bres,* on permanent exhibition at Na row Gauge Motel, Alamosa, Col Published caption submitted by photo rapher is wrong. Page 19: rails we joined at Promontory in 1869, not '5 Page 74: The *Super-Continental* is Canadian National train, not Canadi Pacific.

FANTRIPS

COAST-TO-COAST tour out of L and San Francisco, Oct. 12 th 27, is sponsored by Pacific Railro Society, Box 5279, Metro Station, L Angeles 55, Calif. More than 60 miles of rail travel via the Santa F NYC, Southern, N&W, MP, ma stopovers. Also side trips, tours yards, shops, other thrills. Total r fare, excluding hotel bills, $205 up.

Pac. Coast Chapter, R&LHS, w sponsor SP fantrip Sept. 22 to Moth Lode country, leaving San Francis ferry house at 8:20 a.m., stopping East Bay station. Steam power at lea part of way. Round trip, about $10.5 Everyone invited. Contact Don Thra 610 Arlington Ave., Berkeley, Calif.

Other West Coast fantrips are list as follows by *The Ferroequinologi*

Aug. 11—Joint picnic train to Big Trees.
Aug. 31, Sept. 1-2—Central Coast—Oreg California & Eastern to Bly, Oregon, and Wey haeuser Timber Co.
Oct. 6—Central Coast—Steam returns to Sierra Railroad.
Oct. 11-Nov. 2—PCC R&LHS—Hawaiian Pa dise Cruise.
Oct. 20—BAERA—SF Muny Ry.
Nov. 2-3—Cal-Nevada—Farewell steam trip Reno. Canceled if no steam available.
Dec. 31—Central Coast—New Years Eve trip Monterey.
Central Coast Railway Club—P.O. Box 7 San Jose, Calif.

Next Issue-December-out October

BANGOR & AROOSTOOK—the fascinating story of a potato railroad—Charles Morrow Wilson.

BOOMERS AND THEIR WOMEN—Haywire Mac's last manuscript—factu material drawn from his own rich experiences on dozens of railroads in U. and Canada.

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California-Nevada Railroad Historical Society—Arthur Lloyd Jr., 974 Pleasant Hill Road, Redwood City, Calif.

Pacific Coast Chapter, Railway & Locomotive Historical Society—J. E. Turner, 1739 Berkeley Way, Berkeley, Calif.

Bay Area Electric Railroad Assn.—Addison Laflin, 2119 Marin Ave., Berkeley 7, Calif.

Northern California Railroad Club — Edward Bohlen, 1824 Belburn Dr. Belmont, Calif.

Annual convention of National Railway Historical Society will be held Labor Day week-end at Roanoke, Va., featuring the steam-operated N&W and the South's only Class 1 electric road, the Virginian. Get details from Henry S. Libby, 1224 S. Thomas St., Apt. 22, Arlington, Va.

FLAGSTOPS

ILLUSTRATED bulletin describing Alco's line of 8 export diesel-electric locomotives is obtainable, free, by writing Alco Products, Inc., P.O. Box 1065, Schenectady 1, N. Y.

Railroad Sounds and Recordings, a Bibliography, a pamphlet, is published by Association of American Railroads, Transportation Bldg., Washington 6, D. C., for free distribution in schools and colleges.

The Switch Lamp, 5½ x 8½-inch mimeographed monthly, about 20 pages, issued by Iowa Chapter, NRHS, covers Midwestern steam and electric roads. Year's subscription, $1. Contact Edward Myers, 1521 Carroll St., Boone, Iowa.

Railroads in the Lehigh Valley, published by Lehigh Valley Chapter, NRHS, is a 6x9-inch booklet covering 11 current roads and one defunct line operating within 25-mile radius of Allentown. Its 55 pages include 55 photos, a map, and an 8000-word history beginning in 1836. Available at $1.25 a copy ($1.50 foreign) postpaid, from Randolph Kulp, 602 St. John St., Allentown, Pa.

Miniature RR. Club, 318 Wheatfield St., York, Pa., is open free to the public for 14th annual show, Sat. and Sun. evenings, Nov. 30 through Dec. 22.

Thousands of old photos and negatives of Lima-built steam engines have been presented by Baldwin-Lima-Hamilton to the Allen County Historical Society at Lima, Ohio, reports John Keller, chairman, Lodge 200, Nickel Plate Roadmen, 721 Woodward Ave., Lima.

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No. 2902, the SP's last open-end observation car, is owned jointly by California Nevada R.R. Historical Society and Pacific Coast Chapter, R&LHS. The old steel car, now air-conditioned, was originally equipped with a barber shop and a shower bath. Its new owners use it on fantrips. ●

STEAM POWER

REPLICAS of the Pennsy K-4 are available as a tie-clasp or a girl's costume pin, authentic in detail, molded in antique gold with Keystone emblem in red enamel, $2 each. Address Pennsy Family Club, c/o Pennsylvania Railroad, 1234 Transportation Center, 6 Penn Center Plaza, Philadelphia 4, Pa.

Except for the N & W, Canada now has the deepest concentration of steam power in North America. Plenty of steamers dot central and western Canada, but even more operate out of the big cities east of Winnipeg. Bruce Bente reports the following:

Canadian National: 0-6-0: 18; 4-6-0: 4; 4-6-2: 20; 0-8-0: 15; 2-8-0: 11; 2-8-2: 21; 4-8-2: 4; 4-8-4: 25; 4-6-4T: 4; 2-10-2: 1.

Canadian Pacific: 4-6-0: 15; 4-6-2: 46; 4-6-4: 11; 0-8-0: 1; 2-8-0: 14; 2-8-2: 29; 4-4-4: 2; 2-10-0: 1. Grand total seen: 242.

Reports from Doug Cummings and Ted Gay include the following:

Maritimes (Nova Scotia): Much steam power.

Vancouver, B. C.: CPR: 2-8-0: 3; 2-8-2: 1; 2-10-0: 1; 4-6-0: 2; 4-6-2: 7; 4-6-4: 5; CNR: 2-8-0: 1; 2-8-2: 13; 0-6-0: 4; 4-8-2: 1.

Winnepeg: 100 dead steamers in Transcona yard.

Pacific Coast Terminals: 0-6-0T: one stored; 0-6-0: two active.

In Northwestern U.S.A. there is still some steam left on the logging roads, reports Yeager Bush, but it is fast dwindling.

In Eastern U.S.A., steam-hungry fans should visit the N&W and the Pennsy, before it is too late, especially the Pennsy's Pittsburgh and Northern regions. (See N&W roster in our Aug. '56 issue, PRR roster in Aug. '57.) Aaron Fryer, John Marino, Granville Thomas, and Steven Hall report seeing Pennsy 4-6-2 K-4's, 2-8-0 H-9's and H-10's and 0-8-0 B-6sb on the P-RSL in New Jersey; while at Reading, Pa., the Reading Co. has 4-6-2 G-3's and 4-8-4 T-1's stored.

Contradicting a recent claim that only one road is still operating 2-6-0's, Tom Lawson, Jr., Phil Weibler, and Bob Field add these roads:

Mobile & Gulf, Arkansas Ry., Dardanelle & Russellville, Delta Valley & Southern, Southern Pacific, Illinois Central, B&O (Chicago Terminal), Feliciana Eastern, East Jordan & Southern, Dansville & Mt. Morris, Norwood & St. Lawrence, and Angelina & Neches River. The Augusta RR. uses a mogul.

Here are some other steam reports:

B&OCT: 0-8-0's 900 and 1703.

B&O: 2-8-2's, 4-8-2's, and 0-8-0's at Garrett, Ind. At Deshler, O., there are a 2-8-0 and an 0-8-0. At Willard, O., a 2-8-2, nine 2-10-2's, eleven 4-8-2's, seven 0-8-0's, and one 4-8-2.

NKP: Much steam operation left, but full dieselization is promised for 1962.

GTW: 0-8-0's, 4-6-2's, 2-8-0's, 2-8-2's, 4-8-2's, and 4-8-4's, operating mostly from Detroit.

Texas, Oklahoma & Eastern: 4-6-0.

NP: Many steamers of all classes.

CB&Q: 0-6-0T's, 0-6-0's, and 4-6-0's, mostly dead.

SP: Last steamer out of 3rd and Townsend St. Station was No. 4430. Now most steam engines in the Bay Area are dead.

Listen to H. K. Vollrath, Louisiana & Arkansas train dispatcher, 2524 Meriwether Rd., Shreveport, Louisiana.

"About six years ago the Texas & Pacific gave 2-10-4 No. 638 to the Texas State Fair Association at Dallas. She was widely publicized and visited by thousands of people. But vandals stole so many parts that the engine had to be scrapped.

"It was a real loss. The T&P had no steamers left, but they made a fine gesture. They bought the New York Central's 3001, a 4-8-2 type built by Schenectady in 1940, and rebuilt her in their Marshall, Tex., shops to resemble the largest T&P passenger engine, No. 909, which Baldwin had built in 1928. Then they gave her the same T&P number and donated her to the Fair Association to replace the vandalized 638. You can bet your last Confederate dollar that this iron horse is well guarded."

Another old engine, No. 153, a Pacific type that hauled sugarcane for years, has just been given by U. S. Sugar Corp. to the University of Miami South Campus in Florida, reports "Frog" Smith, 260 Poe St., Fort Myers, Fla. She was built for the Florida East Coast in 1922. University of Miami R.R. Historical Society is caring for the old girl. ●

RAILROADIANA

OUR LISTINGS bring results. Thousands of readers in North America and overseas have found pen pals or romance or have located missing persons through the *Hobby Club* since it began in 1931.

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"From one *Switch List* ad I received close to 100 replies," says Tom Stanquist, Lombard, Ill.

We never charge for this service, because we feel that imposing a fee would defeat the very purpose for which the Club was organized. All items are printed in good faith but without guarantee.

Address Sy Reich, *Railroad Magazine*, 205 East 42nd Street, New York 17, N. Y. No entry will be acknowledged by mail.

Write very plainly. Keep within 28 words—unless your entry deals with back numbers of this magazine. Specify condition of all magazines and books.

SWITCH LIST

GEO. ABERE, Jr., 107-33 109th St., Richmond Hi N. Y., will trade '33 LIRR emp. tt. for LIRR form LI-19 or positive photostat of it. Write first.

R. M. AINWARING, 90-03 75 St., Woodhave N. Y., will trade '24 Off. Guide for LIRR tt. fo LI-19. Write first.

RALPH BACK, 900 W. Grand Ave., Muskego Mich., buys or trades any size pix, negs. SP 4-8 and cab-aheads.

HARRY BATES, 6 Southern Ave., Feltham, Middl sex, England (British Rys. conductor), wants railf pen pals.

H. V. BEDWELL, Jr., 45 Madison Ave., Mt. Hol N. J., has Pennsy, PRSL pix, steam, diesel 3x3 4x5. List for stamp.

BRUCE BENTE, 186 Liberty Rd., Englewood, N. sells 3½x5 pix: PRR, N&W, B&O, CNR, CPR, stea MTA, NYCTA, PTC, PST, MTC trolley and subwa 15c ea., 4 for 50c.

F. A. BRAATHEN, 1626 4th St. N., Fargo, N. sells Railroad Magazine '45-'57, good cond.; ab rr. pix. List for 3c stamp.

ROGER BRESLOW, 89 Dexterdale Rd., Providen R. I., is disposing of much railroadiana; st wants. Answers all mail.

W. BROSCHORT, 132 E. Moore St., Hicksvil N. J., buys, sells pix elec. lines, rrs., ferry boa steamships; size 616, 10c ea.; no list, state wants

LEO BROADSTREET, 526 W. Missouri St., El Pa Tex., will buy uniform insignia, cap badges, swit and coach keys, old Moore oil lamp used by Pu man condrs., all rds.

CHAS. CARR, 226 Van Blarcom St., Paters N. J., sells many rr. history books; which rds. terest you?

C. J. BURLINGTON, Box 293, E. Haven, Con will buy Pac. Elec. switch key, lock, hat badge.

PAUL CHADOURNE, 901 14th Ave. S., Clint lowa, will buy "Locos of the C&NW," by F. Cole, R&LHS Bulletin, good cond.

IVAN CLINE, 808 W. Illinois St., Evansville, In buys street car, horse car, toll rd., bridge, rr., and ferry tokens.

R. S. CURL, 1223 N. Gilbert, Danville, Ill., w buy p.c. size pix NYC class H-7a, b, c, d, e, H-1 H-10b. Send lists.

OWEN DAVIES, 1214 LaSalle St., Chicago, I sells back numbers Railroad Magazine, Trains, ot railroadiana. Big list free to anyone specifying interests.

FRANK DONOVAN, Jr., 114 W. 45th St., Minn polis, Minn., writing Manch. & Oneida (Iowa) h tory; wants M&O anecdotes, pix, tts., roster, e (Editor's note: Frank has authored several boo many Railroad Magazine articles, incl. "Can War," Oct. '56.)

FRED DUNN, Box 398, Rte. 2, Stinnett, Tex., w sell Railroad Magazine, good cond., unclipped, '49; '50 except Jan.; '51; '52 except Nov., De Loco. Engrs. Journal '47, all $25 postpaid.

DENNIS DUPIER, 144 McKinley Ave., Dumo N. J., sells recent Off. Guides, $2 plus posta State preferred month.

JIM FARRELL, 2343 N. Karlov Ave., Chicago, I will send transfer from last Chicago trolley stamped env.

T. M. FLATTLEY, Jr., QM School, Ft. Lee, V sells or trades p.c. size negs. Rio Grande ste List for 3c stamp.

GUY FREVELE, Box 199, Alpine, Calif., wa blueprints Stevenson, Baker, Walschaert, Joy va gear.

TED GAY, 6 Northview Dr., Morris Plains, N. p.c. size negs., some size 116, nearly all N. Am rds.; state wants.

WALT GEMERNHARDT, 8732½ Midway Dr., Sa Ana, Calif., wants pix Pennsy K-5 and NYNH Pacifics.

ROGER GILLIS, 975½ S. Williams St., Denv Colo., will buy Railroad Magazine prior to Beebe's "Trains in Transition." Answers all mai

TOM GRAHAM, 127 Cottage St., Jersey C N. J., sells steam, elec., trolley pix; 4x5 35c, 60c, 8x10 $1.10, 2¼x2¼ 15c. List, sample, 10c.

ART GREENWALD, 104 Cambridge St., He Bay, Sydney, N. S. W., Australia, (ry. emplo

wants pen pals; is interested in elec. rds.; has many size 620 pix to swap.

FRANK GUERNSEY, 3138 S.E. 78th St., Portland, Ore., buys any size steam negs., only GN, SP&S, WP, SP, also bus tokens. Send list.

BOB GUHR, Box 195, Glenview, Ill., sells size 616 steam loco negs. class I roads and short lines. List for 3c stamp.

GRAHAME HARDY, Carson City, Nev., sells old issue Railroad Magazine, Trains, rr. books, other railroadiana. Big list free.

WALT HARRIS, 45 W. Elm St., Stockton, Calif., sells back numbers Railroad Magazine, Trains, Mod. Craftsman, others. List for stamp.

W. C. HENDRICK, 671 Eastmont Ave., Los Angeles, Calif., has used 1931 Hetch Hetchy tr. sheets to trade for tr. ords. or pix, size 116 or bigger, of eqpmt. HH, T&T, other West shortlines.

BILL HIGGINBOTHAM, 180 Pearsall Dr., Mt. Vernon, N. Y., buys emp. tts., Eastern and Midwest US, eastern Canadian rrs.

RAY HIGGINS, 419½ Katahdin Ave., Millinocket, Maine, sells p.c. pix BAR MeC, CPR, CNR steam, diesels, stations, cars, eqpmt., on approval.

WALT HOFER, 41 Maltby Pl., New Haven, Conn., buys or trades emp. tts. Erie Rochester Div. prior to '30, NYC Mohawk Div. prior to '28, NYSW&B any date.

KEN HUTCHINSON (CNR brakeman), RR. 2, Burlington, Ont., Canada, starting collection of steam pix CNR, CPR, CV, GTW, GN, N&W, WMd, also tr. wrecks, not over p.c. size.

G. E. ISAACS, publisher, Durham News Journal, 113 Peabody St., Durhmam, N. C., will buy photo Nev. Nor. tr. pulled by 10-wheeler, suitable to frame.

BOB IVAN, 19766 Strasburg Ave., Detroit, Mich., wants original 8mm Kodach. movies Pennsy GG-1, Sou., and Western rrs. Write first.

JIM JEFFERY, 1569½ Hoyt St., Muskegon, Mich., wants any size negs. GN elecs., Intrastate Ry. steam. Sells back issues of Railroad Magazine.

M. E. JONES, 422 Dacy St., Woodstock, Ill., has over 120 switch keys; wants CGW key.

ARNOLD JOSEPH, 2512 Tratman Ave., New York, N. Y., sells back issues Railroad Magazine, Trains, other mags. List for stamped env.

NORMAN KERR, Cartmel, Lancashire, England, sells American rr. books, Railroad Magazine, Baldwin Record, tts. List free.

CHAS. KOCAN, 2405 58th Ave., Cicero, Ill., wants any size steam negs. IC Chicago Omaha Div., CB&Q; also early Berwyn-Cicero trolley lines.

C. KOWAL, 2743 W. 55 St., Chicago, Ill., sells photostatic copy Ives '15 catalog, $8 ea.

JULES KRZENSKI, 14 W. 23 St., Deer Park, N. Y., will sell Flexora twin lens reflex, case, flash, etc. good cond., $65. Details for 3c stamp.

M. H. LLOYD, 226 Hendricks Blvd., Buffalo, N. Y., will sell tts., travel literature Central-Eastern region rrs., 190 items, 1895-1949, for best offer. List for 3c stamp.

D. H. LONG, 1908 Vallejo Way, Sacramento, Calif., will buy pix, info. Sac. Nor. pass. operation, incl. OA&E, SF-S, NE, prior to 1941. Send list.

BURT LORING, Rte. 5, Brainerd, Minn., will sell 92 issues Railroad Magazine '42-'54, good cond., 20c ea., $13.80 for lot.

P. MANSKI, 613 S. Main St., Webster, Mass., buys current emp. tts. NYNH&H, NYC-B&A, CV, Rutland, BAR, Me. Cent., B&M; also '14 or '15 emp. tt. B&A.

HILAIRE MARCIL, 5 Hayer St., Adams, Mass., will sell Railroad Magazine '41 to date, good cond., other rr. and model rr. mags. List for 3c stamp. Answers all mail.

BOB MARKS, 471 Dunates Dr., W. Hempstead, N. Y., will sell "Locos of the WP," recent Car Bldr. Cyclo., etc., fine cond. Details for stamped env.

CHAS. MARSH, Jr., 801 Yadkin St., Kingsport, Tenn., sells size 616 pix C&O, Clinchfield, IC, N&W, Sou., Vgn., others, 11 for $1.

JOHN MARTIN, Bareville, Rte. 1, Pa., will sell "Steam Boilers," good cond., $2.75; also sells whistles.

P. M. McCLINTOCK, Box 891, Franklin, Pa., sells or swaps old circus tr. pix, 12 5x7's $5.50. Will sell 40x17 original chart for oiling 1905 Lima locos, natural color, $4.50.

M. D. MEYER, 238 W. Water St., Brillion, Wis., set of West and Midwest elec. lines pix, $1. (Ed. asks, what size pix and how many in set?)

D. F. MORRISON, 28 Anawam St., Taunton, Mass., sells 5mm Kodach. slides B&M, NH, NYC, Boston El; list for 3c stamp.

ED MORAN, 3300 Netherland Ave., Riverdale, N. Y., will sell Railroad Magazine '36-'47, Mod. R'er '39-'47, others. State your wants.

BOB OLIPHANT, 35 Overlook Dr., Golf, Ill., sells pix, slides, elec. rys. List, sample print 10c. List, sample color slide 35c.

WM. OVERHOLSER, 537 Lyle Ave., Springfield, O., wants pix n.g. lines, esp. mine and industrial, amusement pk., info on small spike supplier.

STEVE PATTERSON, 1309 Magnolia Ave., Kingsport, Tenn., trades tr. orders; wants N&W pix, negs.

DICK PATTON, Box 771, Coral Cables, Fla., sells or trades p.c. size steam pix. List, 2 samples 25c.

RAY PEARSON, 113 Sinclair Ave., Staten Island, N. Y., sells steam, diesel, elec. pix, various sizes, 10 for $1.

TOM PEEBLES, Box 807, Stellarton, N. S., Canada, will buy size 616 or 116 used Kodak camera or send CNR steam pix in trade.

ANTON PRONEK, New Buffalo, Mich., will buy Loco. Dict. '06-'25 and Cyclo. '22-'36; also p.c. size loco pix 1870-1920.

TEX PRUSIA, 216 Jennings Ave., Wood River, Ill., sells p.c. size pix, size 616 negs., 35mm color slides steam power. Write for info.

RALPH RANGER, Jr., 1310 Illinois St., Vallejo, Calif., wants pix, info. on NY & Penna. RR. Write first.

JOS. RAZEK, 1312 Grenox Rd., Wynnewood, Pa., will sell many issues Railroad Magazine, Trains, ERA Headlights, Off. Guide. Details for 3c stamp.

ARNOLD REID, Defensa 665, Buenos Aires (R. 46), Argentina, sells Argentine trolley pix, size 4½x3½, 7 for $1.

JOHN RENSLER, 601 Augusta Ave., Knoxville, Tenn., will sell compl. Railroad Magazine Jan. '39-Nov. '54, to highest bidder.

AL RICHARDS, 2107 SE Yambill, Portland, Ore., wants action shot UP 4019 suitable for framing.

B. F. ROBERTS, RFD 7, Box 328, Spartanburg, S. C., trades old rr. books, mags., loco insp. reports, diesel negs. for Sou. steam pix.

C. C. ROBERTS, Ozark, Mo., will sell Modern Railroads mag., good cond., '54; '55 except Feb., Mar.; '56.

DAVID ROGERS, 25 Pierce St., Northboro, Mass., sells, trades size 116 pix New England rrs. List for 3c stamp.

BOB SCHMEISSER, 67 E. Palisades Blvd., Palisades Pk., N. J., wants √&T roster and track plan.

DENNIS SCHMIDT, 714 W. Lexington Ave., Elkhart, Ind., sells size 620 pix NYC, C&O, GTW, CSS&SB. List for 3c stamp.

R. E. SEARLE, 16015 Via Granada, San Lorenzo, Calif., will buy Loco. Cyclos. prior to '30, good cond., or send 5x7's of Western rrs. in trade.

Pvt. EARL SHUMAKER, US52368500, Hq. Co. 25th Div. (Ed. Center) APO 25, San Francisco, Calif., wants pix Washington trolleys.

DWIGHT SMITH, Jr., Springfield Rd., Charlestown, N. H., will sell Model R'er '38-'46, also size 5x7 pix locos, cars, stations New England rrs. Lists for 3c stamp.

FRED SMITH, 161 Crestwood Dr., Apt. 9, Daly City, Calif., will buy Interurban Sp'l 9 on Sacramento Northern RR.

JUSTIN SMITH, 17638 Roosevelt St., Homewood, Ill., wants to hear again from all who asked for his list of old mags., pix, etc.

FRED SPURRELL, c/o State Patrol, Everett, Wash., will buy or swap for logging eng. pix 4x7 photos of inspection, Cambelback, streamlined steamers.

WESLEY STEAD, Box 592, Effingham, Ill., wants "Railroading from Head End," "Trains in Transition," early issues of Trains.

TOM STENQUIST, 429 S. Craig Pl., Lombard, Ill., wants info pix, tts. CTA, CA&E, CNS&M, CSS&SB. Sells size 620 pix of these rds. Wants John Howard's address.

J. A. STOKES, 3958 S. Hill St., Los Angeles, Calif., buys pix, any size, SP locos in Texas prior to '21, Mexican locos prior to '08.

TED TAETSCH, 14218 Garfield Ave., Lakewood, O., sells, trades NY City subway and surface pix. Wants all US trolleys.

HARRY WALES, 2324 Fassel Ave., RR. 1, Burlington, Ont., Canada, has CNR, CPR pix, negs. since 1932. Will swap with other Canadian (esp. Ontario) fans.

DICK WALLIN, 664 Hawbrook Ave., Kirkwood, Mo., wants pix, negs. C&IM 507, 508, 534, 535.

C. R. WATERMAN, 931 Burton St. SE, Grand Rapids, Mich., sells p.c. size pix PM, GTW, LS&I, N&W, CPR, CNR, DM&IR, etc. 7 for $1.

JOHN WEIGHTMAN, Box 696, Sacramento, Calif., will sell Railroad Trainman Mag. Sept. '28, Jan., May, Mar. '29; $1.50.

DAN WENK, 734 Holly Pl., W. Covina, Calif., has 17 rr. books for sale, lot $35.

GEO. WERNER, 1211 Melbourne, Houston, Tex., will buy or trade 35mm color slides and/or 120 size or larger neg. SWLM 2-8-0 No. 2.

RALPH WILFONG, Rte. 1, Box 172-A, Grottoes, Va., wants pix steam power. (Ed. asks, what roads, what size pix?)

BILL WILKES, 3855 Locust St., Riverside, Calif., will pay you to take steam movies for him, PRSL, NP, UP, Rdg., PRR, CB&Q, DM&IR, any Canadian rd., 8 or 16mm.

S. C. WILLIFORD, 609 Cheyenne Blvd., Colorado Springs, Colo., trades n.g. Colo. Kodachromes for 4x5 black-and-white steam pix.

WADE WOLFE, Box 574, College Pl., Wash., will sell many issues Railroad Magazine, Trains, Ry. Progress. Details for 3c stamp.

JEANNE WOOL, 502 Walnut St., Bestfield, Wilmington, Del., will sell late father's old annual rr., steamship and sightseeing passes. Father was TPA for DL&W '21-'32. List for stamped env.

C. E. YOUNG, 106 Hallman St., Fairfax, Va., trades steam 35mm color slides. Has Pennsy, N&W, Edaville n.g.

MODEL TRADING POST

RUSSELL BIRNET, 452 S. 13 St., Newark, N. J., wants Varney N. brass boilers, Bowser Mt. and Articulate kits; state cond., price. Must be complete.

J. BOYER, 220 Herriman St., Syracuse, N. Y., wants 1-inch scale live steam loco parts, partly machined, less boiler or complete. Send full info.

D. J. HENNINGER, 246 Jefferson St., Tiffiin, O., sells rr. catalogs, rr. and model mags., scale 0 cars, locos, etc. List for stamped env.

T. J. HUGHES, 431 Commercial St., Mingo Jct., O., wants Lionel 2055 loco, 1130 tender.

JIM JEFFERY, 1569½ Hoyt St., Muskegon, Mich., will sell Lionel Erie 610 switcher and Wabash 2 motor A & B units; write for details.

JOHN KOCH, Joliett, Pa., will sell or trade Lionel, AF items. Wants 0 gage tinplate before '42. List for 3c stamp. Answers all mail.

JOHN KOWALSKI, 2300 W. 21 St., Chicago, Ill., will sell 0 gage Lionel 154 loco, 3 four-wheel frt. cars, $20 plus postage.

JOE LEVY, 307 W. 36 St., New York, N. Y., will trade or sell Lionel 763E Hudson, 8976 Switcher, 072 track and switches. Wants tinplate pen pal.

STEVE PATTERSON, 1309 Magnolia Ave., Kingsport, Tenn., will sell Lionel rolling stock, good cond., maximum price $2 ea. Free list.

B. F. ROBERTS, RFD 7, Box 328, Spartanburg, S. C., will sell 0 gage Scalecraft Hudson or trade for Am. tape recorder.

T. E. SATRA, 8328 15th Ave., N.W., Seattle, Wash., asks where he can buy desk model Shay loco.

HUGH TEDDER, 404 Oak St., Natchez, Miss., will buy bldr's kit for Shay loco. model.

BEN SMITH, 265 Tompkins Ave., Brooklyn, N. Y., has new Lionel electronic set, st.-gage locos, model mags., '25-'55, to swap for cast-iron toys, rr. calendars.

BILL VALLIANT, 1200 E. 33 St., Baltimore, Md., will sell Tenshodo SD-9, F-9 A&B units, all C&NW, both new, $25 ea.

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ALGEBRA: This volume makes algebra a live interesting subject. The author starts with simple problems that can be solved by arithmetic and then shows you how to apply algebraic methods. Among other subjects, it teaches you all about logarithms—the method of computation that engineers use to save time. It also shows you how to solve problems which are involved in business and industrial work relating to machines, engines, ships, autos, planes, etc.

GEOMETRY: This book gives you the practical, common-sense method for solving all problems in both plane and solid geometry—problems ranging from the simplest distance problems to the geometry of spheres which have applications ranging all the way from the atom to the earth itself.

TRIGONOMETRY: Practically every problem in machine work, land surveying, mechanics, astronomy and navigation is solved by methods of trigonometry, and this interesting volume makes the methods of solving them clear and easy. These methods are explained simply with actual examples of calculations of height and distance as applied to meteorology, the position of a ship at sea, the construction of buildings, bridges and dams, the cutting of gears, etc.

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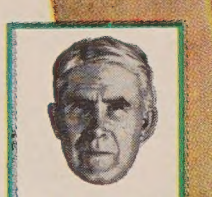

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